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ABSTRACT

This document summarizes some of the major developments now underway in health promotion and disease prevention and reviews the federal contribution to achievement of prevention objectives. The first chapter focuses on opportunities in health promotion which offer the key to many potential improvements in the national health status profile and which are priorities for the Department of Health and Human Services (DHHS). Chapter 2 displays, in chart form, aspects of health-related trends, both for the population as a whole and for five age categories. Health trends depicted in these charts highlight the major causes of diseases and death for each age group. The third chapter reviews the prevention roles of the DHHS agencies and provides highlights of recent, prominent agency accomplishments in prevention. A complete picture of DHHS activities, directed toward improving the general health status of the American people, is provided. Chapter 4 presents a comprehensive inventory of health promotion and disease prevention programs and activities within the DHHS. This publication includes numerous charts, figures, and tables. (JMK)

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PREVENTION '82

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Office of Disease Prevention and Health Promotion

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Preface

"When we, as a nation, fully understand . . . what each of us can do for ourselves, we will become an even healthier and more productive people."

Americans are healthier today than at any point in the history of this country. Improvement in health status over the past several decades has accompanied great advances in health care. Biomedical science has shown us how to prolong life through the use of complex health technology. In a short period of time, we have come close to conquering some of the age-old killers of mankind.

Today, America is on the verge of a new kind of health breakthrough. But this breakthrough won't happen in a laboratory or hospital. Instead it will happen in our homes, our schools and our workplaces. Most of all, it will happen in our attitudes and in our habits.

It's the breakthrough that can take place when all Americans learn how much we can do to help ourselves to health—a breakthrough that elevates the idea of "wellness" to the same high level of interest and concern that we now devote to sickness. This new approach to "wellness" can produce dramatic results and, in fact, is already producing results for millions of Americans.

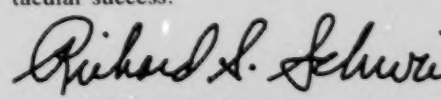
Each year research is showing us more decisively how our own behavior and our own choices are fundamental to better health. This research speaks to us, first, as individuals—by showing us that we can make important, measurable gains in our own health by observing simple good health habits. The research also speaks to us as a nation, by showing the potential of what we might call "wellness care." The numbers alone tell of this potential: Of the ten leading causes of death in America, smoking is a significant fact in four . . . alcohol can be a factor in six . . . and diet is a factor in four. Behavioral choice is a factor in every one of the ten leading causes of death.

The significance is obvious: Our own choices and our own behavior do have an influence on our health. When we, as a nation, fully understand that fact and learn what each of us can do for ourselves, we will become an even healthier and more productive people.

If we want to improve our *own* health and our *nation's* health, a great opportunity lies in a coordinated program of health promotion and in the new concept of "wellness care." That's why, at the Department of Health and Human Services, I'm putting special emphasis on disease prevention and health promotion.

Part of this new effort is research—learning more about the relationship between behavior and disease. Part of the effort must also be directed at the medical community—better informing the medical professionals about disease prevention, and teaching this information more intensively in our health professions schools. But most of all, this effort must involve public education—a national effort by government, the private sector and the medical community to inform Americans of what they can do for their own good health.

My goal as Secretary of this Department is to encourage the changes and innovations necessary to put this new concept of health promotion and "wellness care" into the mainstream of our lives and thereby place the opportunity for health within reach of every American. Building on the work reviewed in *Prevention '82*, we can educate Americans to the choices they can make for good health. Using the same energy and talent that has brought our enormous health gains in the past, we can work together to make "wellness" our most spectacular success.



Richard S. Schweiker
Secretary of Health and Human Services

Foreword

Since the turn of the century, the people of the United States have experienced dramatic gains in life expectancy. At the same time, there has been a marked shift in the leading causes of death and disability. Chronic illness and trauma, rather than infectious diseases, account for most of the 10 leading causes of death in the country today. These two changes alone underscore the importance of our placing more emphasis as a society on those measures that we know can prevent illness and promote good health.

Our knowledge about the relationship between behavior and health status is stronger today than ever before. We know that there is much that individuals can do to protect and promote their own health. Indeed, studies show that if a 45-year-old-man were to take a few relatively simple steps to protect his own health—for instance, if he were to quit smoking, develop good exercise habits, avoid the abuse of alcohol and drugs, and maintain a proper diet—he has a better chance to extend his life expectancy and his productivity. This relationship between lifestyle and health status is apparent at every point on the age scale.

People need a comprehensive approach to reduce their risk of disease and injury and enable them to lead more healthful lifestyles. A comprehensive health program must deal with factors that individuals can control, as well as factors over which they have little or no control.

Health care in this country is still, for the most part, organized along curative and reparative lines. Cure rates and repair rates have become the conventional criteria for success. We have invested most of our attention and an overwhelming share of our resources into improving the availability and quality of treatment and rehabilitation services. As important as these are, we cannot continue to allocate so much of our time and treasure to the development of ever-more-sophisticated medical equipment and services. Instead, we might safely assume that among the greatest advances in health status and quality of life are many that will accrue form efforts we make, as individuals and as a society, to improve our own health habits and our own environments for living and working. For that to occur, every citizen will need to develop and adopt a prevention ethic.

It will not be easy to shift to a model that emphasizes prevention, but the change must be made. The time has come for us to turn our attention as a Nation to the preservation of good health, the promotion and enhancement of healthful lifestyles, and the prevention of disease and disability. We need to concentrate our attention and energy on providing individuals with the knowledge and skills necessary to assume maximum responsibility for their own health destinies.

If we are to improve health status by influencing behaviors that directly contribute to health and well-being, we must make available a wide variety of opportunities for people to learn more about their own health care. To ensure success, we must forge a strong public-private partnership among our communities, schools, worksites, and health care settings. A strong national health promotion strategy requires the commitment and full participation of practicing health professionals, voluntary organizations, business and industry, organized labor, community leaders, and educators, and concerned citizens from every sector and level of society. The appropriate role of the Federal Government is to lead, catalyze, and provide strategic support for these private initiatives.

Prevention '82 describes a rich departmental agenda in health promotion and disease prevention. This document bears witness to the fact that the process is under way. It is our hope that by

presenting this review of Federal activities and accomplishments, we can facilitate the efforts of health professionals and program managers engaged in similar activities in States and localities across the country. With a cooperative commitment of energy, imagination and will, we should have our health goals well within our grasp. Persons reading this report should examine their own lifestyle and make appropriate changes. A better quality of life will be your reward.

Edward N. Brandt, Jr.

Edward N. Brandt, Jr., M.D.
Assistant Secretary for Health

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Many people from the Department of Health and Human Services offered important cooperation and assistance in the preparation of *Prevention '82*. Particular acknowledgement should be made of the work of the prevention coordinators for each of the Public Health Service agencies, who synthesized a large volume of information for Chapter 3 and reviewed several drafts of the report. In addition, thanks go to Patricia D. Mullen for her work on Chapter 1, to the staff of the National Center for Health Statistics for their assistance with the preparation of Chapter 2, to Karen Reed for her careful preparation of the budget tables in Chapter 4, and to Martha Frazier for her administrative and secretarial support in preparation of the manuscript. Finally, Penelope Pollard deserves special appreciation for overseeing the critical details of the report's preparation.

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Chapter 1

Better Health For Americans: A National Health Promotion Program

Several recent documents have reviewed the health improvements of the last decade for Americans, as well as the prospects for further gains. Prominent among these are *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention*, *Promoting Health/Preventing Disease: Objectives for the Nation*, and *Health: United States, 1981*. What is particularly interesting—and in many respects encouraging—is the extent to which the improvements are attributable to actions that people can take for themselves.

Prevention '82 summarizes some of the major developments now under way in health promotion and disease prevention and reviews the Federal contribution to achievement of our prevention objectives. This first chapter provides a special focus on the opportunities in health promotion which offer the key to a great many of the potential improvements in our national health status profile and which have emerged as a particular priority for the Department of Health and Human Services (DHHS).

Health Promotion Highlights

Health Promotion as A Program Focus

Unlike traditional curative medicine, health promotion seeks to facilitate community and individual measures which can foster the development of lifestyles to maintain and enhance the state of health and well-being. There is substantial evidence that stopping smoking, reducing misuse of alcohol and drugs, improving diet and nutrition, managing stress, exercising, adhering to medical regimens for certain illnesses such as diabetes and hypertension, and making appropriate use of preventive services reduce the risk of illness and premature death. Improvements in these areas can both decrease the incidence of disease and disability and increase an individual's sense of well-being. Health promotion efforts concentrate on helping Americans make changes in these areas to attain better health.

As our understanding deepens about the influence that personal behavior patterns can have on our health status, a significant public and private health promotion effort is developing to help Americans achieve greater gains in the maintenance and improvement of their health. To accelerate these gains, the Secretary of the Department of Health and Human Services has formed an Executive Committee, co-chaired by the Secretary and the Assistant Secretary for Health, which is developing a major health promotion initiative.

The impetus for health promotion is stronger today than ever before. Individuals, neighborhoods, cities, and even entire States are moving toward a new perspective on health and away from a preoccupation with illness. Americans are no longer dependent on curative medical care as the sole means of improving health; rather, their attitude toward health is changing. A 1978 Harris survey indicated that more than half of the adult population is more concerned about prevention of illness and disease than even a few years before. This new concern is also evident among leadership groups such as business executives and union officials; in 1978, three-quarters of these leaders stated that the top management of their organizations was concerned with prevention (1).

Societal trends already demonstrate changes in American attitudes toward illness and prevention. In the last 15 years, for example, the proportion of adults who smoke has declined by more than 20 percent (2,3); the proportion of the population with high serum cholesterol levels has declined by 12–22 percent (4) (coincident with the 10–15 percent reduction in consumption of foods high in total fat, saturated fat, and cholesterol (5–7)); and the proportion of adults who exercise regularly has increased by as much as 100 percent (4). More recent trends indicate that teenage girls and women, among whom smoking has been on the increase in recent years, are now giving up the habit (8).

These changes occur gradually and are caused by a variety of factors. The health promotion activities of governmental agencies, voluntary health and social service organizations, health professionals, school health educators, insurance companies, and commercial enterprises are helping to bring about these changes. The effect of education on smoking habits, for example, is proof that health promotion efforts can produce dramatic results. Annual adult per capita cigarette consumption rose throughout this century until 1964, when the first *Surgeon General's Report on Smoking and Health* was issued and a comprehensive public and private effort was inititated to reduce smoking. Analyses of subsequent cigarette consumption suggest that, if the 1964 trends had continued, without the anti-

smoking campaign cigarette consumption in 1978 would have been more than 40 percent greater (9). Market response also has helped to promote other changes that lead to better health, and in some cases, business and industry have volunteered to promote good health in their goods and services.

These changes have been substantial enough to affect the life expectancy of Americans (10). Between 1970 and 1980, the life expectancy of a 45-year-old American increased by 6.6 percent. Though this increase reflects gains in preventing and treating a variety of disease conditions, it is due mostly to the reduction in deaths from cardiovascular disease. Clinical management of cardiovascular conditions has improved, but, more importantly, the overall risk of cardiovascular disease has decreased (11).

Education is playing an increasingly important role in lowering the incidence of illness and disease. Extensive efforts to educate potential victims of cardiovascular disease about the risks of hypertension and the need to participate in screening programs produced the first significant decrease in deaths from stroke. Now, efforts concentrate on monitoring known hypertensive patients to ensure that they adhere to therapeutic regimens. Recent findings from a set of 11 randomized clinical trials sponsored by the National Heart, Lung and Blood Institute show that substantial improvement in blood pressure control can be achieved through education, followup, and reinforcement (12). In another example of the success of educational intervention in improving health outcomes, the number of diabetic patients admitted to the hospital was substantially reduced after a diabetes education program (13).

Individual motivation is not always sufficient to promote and maintain health behavior. For example, in a 1979 National Center for Health Statistics survey, 53 percent of women smokers and 45 percent of men smokers said that they had made a serious attempt to stop smoking during the previous 2-year period, and yet they were unable to stop for good. There are many reasons people do not attain the personal health goals they set for themselves. Some of these relate not so much to shortcomings on the part of the individual, such as a lack of knowledge or willpower, but to pressures from the environment, which can undermine the best individual efforts, and to the lack of opportunity to apply new knowledge and skills. Individuals are more successful in attaining their personal health goals when they live and work in an environment that supports and provides opportunities to exercise healthy behavior. Opportunities need to be created for people who are interested in learning about their health, and followup measures should be stressed. Such opportunities should be available in a variety of settings.

To this end, the Federal framework for health promotion must be structured to support and encourage the activities of a broad range of private groups whose participation is essential to a successful national health promotion effort. And, unlike health improvement strategies that have been undertaken almost exclusively in health care settings, the public-private partnership for health promotion must extend to schools, factories, hospitals, stores, churches, parks, and other places where people live and work.

Settings for Health Promotion

Federal agencies, State and local governments, and private groups are now seeking to enhance health promotion efforts in a variety of settings. Most of the programs they have developed concentrate on specific populations with a special health risk. In this section, health promotion efforts are discussed by setting, and a matrix is offered which displays a sample of health promotion activities that can be provided in various settings.

School Settings

The school is an important setting in which to educate children and adolescents about health and healthy behavior. An estimated 43 million students are enrolled in 87,000 public and 20,000 private elementary and secondary schools. Although the health of American children has improved dramatically, a number of troubling behavioral problems still exist for many children and adolescents.

While the birth rate for teenage girls has declined in recent years (14), the pregnancy rate has increased. If this trend continues, 39 percent of all girls who turned 14 in 1978 will have at least one pregnancy in their teens (15). Alcohol abuse is widespread among young people, and the number of high school students intoxicated at least once every month has more than doubled since 1966. Suicide is increasing among young people; more than 10 percent of the teenagers who died in 1976 committed suicide. Whereas drug abuse among young people was virtually unreported in 1950, by 1977 there was widespread experimentation with marijuana and other substances such as cocaine and hallucinogens.

Prominent among threats to the physical and mental health of young people are smoking, sexually transmissible diseases, mental illness, and homocide. Nevertheless, few school districts have well-developed health education programs. Ac-

Examples of Health Promotion Activities in Various Settings for Major Age Groups

	Infants	*Children*	*Adolescents and Young Adults*	*Adults*	*Older Adults*
Schools	• Support programs for adolescent parents • Parenting education in school curricula (for both boys and girls)	• Comprehensive health education curricula with emphasis on positive health behaviors • Physical fitness testing, training and awards programs • Health screening and immunization programs • Healthful snacks in vending machines	• Development of overall school climate of discipline and achievement • School health education curricula with emphasis on positive health behaviors • Establishment of peer-group counseling efforts	• Health education programs through community colleges and high school evening programs • Extension of high school exercise facilities for adult use • Health education classes through colleges and universities	• Extension of school meal programs to older adults • Volunteer service opportunities to promote interaction between older adults and children
Worksites	• Employer-sponsored day care programs, including parent education and support groups • Maternity/paternity leave and related programs that facilitate family formation • Policies that facilitate breastfeeding • Notification of employees about reproductive risks associated with work environments • Flexible work schedules for parents	• Family health and safety topics in health promotion programs	• Family use of worksite exercise facilities • Flexible work policies to maximize opportunities for adolescents	• Health promotion and employee counseling programs • High blood pressure detection and treatment programs • Provision of exercise facilities • Organization-wide policies designating nonsmoking areas • Cafeteria programs to promote good nutrition • Policies and programs to help ensure a safe and healthy work environment • Reduction of excessive stress in the work environment	• Expansion of worksite health promotion programs to retirees • Lifting mandatory retirement age • Flexible work schedules to ease retirement transition
Health Care Settings	• Nutrition counseling and guidance in risk reduction for pregnant women and parents of infants • Information and support for breastfeeding • Parent counseling on infant screening to identify high risk families • Poisoning prevention programs • Community outreach and education	• Counseling for parents on normal childhood growth and development • Education for parents on health habit formation and child safety • Classes for parents about home care of minor acute illness and injuries • Involvement of children in decisions about their health care	• Adolescent health counseling programs	• Education and counseling programs to reduce risk and maintain therapeutic regimens • Education about unnecessary surgery and procedures; second opinion programs • Self-care education	• Improved training of health care providers for geriatric practice • Development of home care alternatives to institutionalization

Examples of Health Promotion Activities in Various Settings for Major Age Groups

	Infants	*Children*	*Adolescents and Young Adults*	*Adults*	*Older Adults*
Communities	• Nutrition programs for pregnant and lactating women • Media campaigns such as "Healthy Mothers, Healthy Babies" • Support and education for parents • Injury control programs and ordinances	• Public service announcements countering advertisements directed at children • Assistance for parents in educating their children about sex and family life • After-school recreation programs	• Volunteer service opportunities • Targeted media programs, such as the 1982 Alcohol Abuse Prevention campaign • Adolescent health education programs sponsored by youth serving agencies	• National Health Promotion Training Network, e.g., health education and support programs sponsored by coalitions of local organizations • Media campaigns such as "HealthStyle" • Improved nutrition information through food labeling, print and electronic media, and advertising • Community intervention programs for specific health risks, such as the Trilateral High Blood Pressure Education Program	• Meals on Wheels and other nutrition support programs • Education on hypothermia and heat stress • Walking groups and exercise programs designed for older adults • Promotion of positive attitudes toward aging and the elderly • Bereavement counseling • Senior health promotion volunteer programs • Promotion of drug profile records

cording to recent data from the States reviewing changes since 1979, improvement has been noted in several areas including teacher preparation, increased instructional time, and local support. However, only 24 States require a definite amount of health instruction prior to graduation and none require more than a total of one year of instruction. Comprehensive school health (sequential, K-12 program addressing appropriate health topics) remains uncommon (16, 17). Physical education programs are being cut back to the point that only one child in three participates in a daily program of physical education (18). The DHHS, through the Office of Disease Prevention and Health Promotion, in cooperation with the President's Council on Physical Fitness and Sports, is in the process of evaluating the physical fitness of adolescents ages 10 to 17.

Developing effective school health programs requires combining comprehensive health education with related strategies for promoting health. Health needs to be incorporated in the school curricula; topics of health and behavior need to be presented in an organized sequence throughout the school years and should emphasize concepts such as decision-making, resistance to pressure from peers and media, the control that individuals have over their own health and that of their communities, the importance of behavior in influencing health, and how to be wise consumers of health care resources. The realization that schools are only one component of a greater community is paramount for success.

Schools should foster a climate of discipline and support for healthy behavior, including fitness, and health education. School programs should offer regular physical education activities that emphasize the relationship of fitness to health. A physical education program should include evaluation so that it can be determined if children are advancing according to national norms for fitness.

The Department of Health and Human Services has launched a series of activities aimed at expanding, evaluating, and improving school health education programs. The Center for Health Promotion and Education, the National Institute on Alcohol Abuse and Alcoholism, and the National Institute on Drug Abuse are among the Federal agencies producing and testing materials and model curricula for use by schools. One significant DHHS effort has been the development and diffusion of the Primary Grade School Health Project, the privately based School Health Curriculum (SHCP), and the Teenage Health Education Modules Pro-

ject. Financed by the Center for Health Promotion and Education, at the Centers for Disease Control, these projects aim to increase and improve the teaching of health education in the schools. Classroom use of the two curricula covering kindergarten through grade 7 doubled between 1980 and 1981. The projects are credited with reaching more than 300,000 students in 2,000 schools in 34 States; expansion is anticipated in 1982. Funding, technical assistance and other forms of support have come from the Center for Health Promotion and Education, the Department of Education, and many different private organizations. The American Lung Association, and the National Center for Health Education have been especially prominent in this work.

The Office of Maternal and Child Health, now part of the Health Resources and Services Administration, convened a conference in March 1982 to focus attention on the new and emerging health issues for children of school age and recommended strategies for effective action. The conference included representatives from a broad range of agencies and organizations from both the public and private sectors. Guidance materials for State health agencies, based on the conference proceedings and recommendations, will be published and disseminated.

Useful resources for schools interested in developing health education programs have been completed recently under sponsorship of the Center for Health Promotion and Education. A compendium of more than 100 model school health education curricula in use nationwide and *Voluntary Health Agency Education Materials Chart for Grades K–12* provide useful guidance for school districts and teachers.

The Department of Health and Human Services, through its Center for Health Promotion and Education and Office of Disease Prevention and Health Promotion, is working with the Department of Education on a major evaluation effort. This project will compare the cost-effectiveness of four alternative school health education approaches. The project is expected to provide valuable information to school personnel and parents about helping children to develop positive health practices through the schools. A program to evaluate drug abuse prevention programs in schools, sponsored by the National Institute on Drug Abuse in DHHS, also will provide schools and parents with useful information on school health programs focusing on drug abuse.

The Center for Health Promotion and Education also has undertaken research on programs to help parents act as the primary sex educators of their children, and has developed school curricula based on the research. One diocese of the Catholic Church has implemented a demonstration program and other diocese have expressed interest in adopting the approach.

Worksite Settings

The worksite is another important setting for health promotion efforts. Many working adults are at high risk of illness or disease that is related to lifestyle. Health promotion programs at the worksite can help make healthy behavior part of the daily routine for working adults. They offer the opportunity for group support, followup procedures, and contact with and support from the families of working adults.

Approximately 100 million person years are devoted to our national work force this year, but about five million potential years of life will be lost because of preventable illness and injury.

Employers assume a large share of the costs of medical treatment—84 percent of all private insurance premiums. A small, but growing, number of businesses and industries are recognizing that health promotion programs may be among the most effective means for containing health costs. More and more businesses are offering programs and services designed to promote the health of their employees and to reduce health risks. A recently completed survey of businesses and industries with over 100 employees sponsored by the National Heart, Lung and Blood Institute found that nine percent of the employers offered smoking cessation programs to their employees; 11 percent offered weight reduction or nutrition programs; 14 percent offered stress management or relaxation programs; 21 percent offered alcoholism treatment programs; 24 percent offered hypertension control programs; and 31 percent offered exercise programs.

Support for worksite health promotion programs is being provided by DHHS agencies such as the Office of Disease Prevention and Health Promotion, the National Heart, Lung, and Blood Institute, the National Institute on Alcohol Abuse and Alcoholism, and the National Institute on Drug Abuse.

A variety of private sector organizations are working closely with the Department to encourage and enhance health promotion programs at the worksite. These efforts include staff consultation on program development, creation of a consortium to define a common approach to program evaluation, sponsorship of demonstration programs, and joint development of guidelines for establishing worksite programs.

In April of this year, *Guidelines for Managing Health Promotion in the Workplace* was published. It was co-sponsored by the Office of Dis-

ease Prevention and Health Promotion, within DHHS, and the National Center for Health Education, with a steering committee of representatives from the American Telephone and Telegraph Company, IBM, New York Telephone, Metropolitan Life Insurance Company, and Ford Motor Company. The *Guidelines* include commissioned background papers by experts in 10 specific areas of health promotion and an assessment of the cost-effectiveness of health promotion at the worksite. Sixteen sample company programs are identified and described, including Blue Cross/Blue Shield of Indiana, Trans World Airlines, Inc., United Health Care Corporation, the American Hospital Association, and Anheuser-Busch Companies, Inc.

A second conference on health promotion in industry was sponsored by the Alcohol, Drug Abuse, and Mental Health Administration in June of 1981. This conference brought together more than 200 leaders from health promotion, labor, management, research and academic communities, and national, State, and local prevention programs to assess existing alcohol, drug abuse, and mental health programs at the worksite as a basis for developing new ones.

The National Institute of Occupational Safety and Health (NIOSH), in CDC, has initiated a number of activities that will enhance worker health by reducing hazards in the workplace. The programs are designed to heighten employer and worker awareness of health hazards posed by job conditions and improve worker compliance with work practices intended to reduce these risks. NIOSH is also working on adapting stress reduction techniques to work based training programs and improving job task, work station and engineering control design to reduce the chances for human error, undue fatigue and injury. These and other efforts benefit employers by providing them with tested program models, step-by-step procedures for putting them into place and a means for evaluating their benefit.

The National Heart, Lung and Blood Institute sponsored three demonstration programs that used Ford Motor Company, Westinghouse, and University of Maryland employees to test the effectiveness of high blood pressure treatment and control. Analysis of the cost-effectiveness of these programs will be available in 1982. The Institute has had an active technical assistance program for employers and unions, with such clients as Giant Foods, Boeing Aircraft, Hoechst Fibers, United Steelworkers, Amalgamated Clothing and Textile Workers, and United Store Workers. The Institute also contracted with Blue Cross/Blue Shield Associations to train marketers in Michigan and Connecticut to work with business and union clients in developing worksite hypertension treatment and followup programs. Blue Cross/Blue Shield Associations have expanded the training program to their 103 affiliates, which serve 69 million Americans.

Health Care Settings

Information and counseling on health-related matters have traditionally been provided in a health care setting. Although other settings are also well-suited for health promotion programs, the hospital, clinic, HMO, and doctor's office have special credibility. The overwhelming majority of Americans have some form of contact with a medical care provider at least once per year. Very young children, pregnant women, and the elderly tend to have more frequent contact with medical care providers. For those who make frequent visits to a health care provider, the health care setting has great potential for health promotion efforts. For example, three-fourths of American children have a regular physician (19); nearly half of the visits they make to the doctor are for routine checkups or simple medical problems (20). Thus, for both the parent and the child the health care setting has great potential for health promotion because it is familiar and relatively free of anxiety. Likewise, for chronically ill patients who have established a sound relationship with medical providers, the health care setting can be used as a place to promote healthy behavior as well as to treat illness.

But the potential of this setting is still largely untapped. Only a small percentage of pediatricians, for example, routinely recommend car restraints for children (21). A 1978 survey by the American Hospital Association of the nearly 5,800 U.S. community hospitals found that 62 percent had one or more patient education programs with planned activities and written goals and objectives. Approximately 1,900 of the hospitals had designated a person responsible for patient education. A 1975 survey by the American Medical Association of group practices (22) found that only about 10 percent of the approximately 8,500 group practices in the country said that they offered patient education as an additional service, despite their potential to prevent hospitalization and unnecessary accidents and illness.

Attitudes are changing, and there seems to be increasing interest in health promotion and patient education services among health care providers. A recent phenomenon is the launching of community health promotion programs by hospitals. In 1979, 55 percent of the hospitals surveyed by the American Hospital Association in-

dicated that they provide some form of health education for their communities.

Within DHHS, the Center for Health Promotion and Education, the Office of Disease Prevention and Health Promotion, several of the National Institutes for Health, the Bureau of Community Health Services and Indian Health Service, and the Bureau of Health Professions are among the Federal agencies that have been working to develop patient education materials, programs, and curricula. Their aim is to encourage initiation of health promotion programs in State and local public health agencies, health maintenance organizations, community and migrant health centers and family planning projects, and other ambulatory health centers, hospitals, and private physicians' offices.

During the past seven years, the Center for Health Promotion and Education at the Centers for Disease Control has helped establish a private sector base for inpatient and outpatient education and health promotion through contracts to the American Hospital Association. This project has focused on documenting information about general patient education activities and community health education programs offered in outpatient settings; the American Hospital Association's Center for Health Promotion has involved the staff and constituencies of more than 60 health organizations in the process. These organizations include health professional organizations, voluntary health associations, American Hospital Association societies and constituency centers, and trade organizations representing different health care settings. Together, these organizations have addressed the management variables that affect the implementation of health education programs, such as: the importance of administrative support, financing strategies and options; legal issues such as patients rights, informed consent, and risk management; and consumer involvement in determining needs and developing and implementing programs.

The Health Care Financing Administration had nine research and demonstration projects under way in FY 1982 that focus on a variety of aspects of preventive health services and health promotion activities especially pertinent to Medicare and Medicaid population groups. These included, for example, a project on effects of health education and lifestyle modification on Medicare utilization in health maintenance organizations; a 5-site demonstration on Medicare coverage of preventive services in urban primary care clinics; and a project on the costs and effects of a variety of screening and other services targeted to children. In addition, planning has been completed for initiating a major 6-year Medicare demonstration in clinical and health education/promotion services with specific emphasis on such services as counseling for risk factors including smoking, lack of exercise and poor nutritional habits.

In October of 1981, a symposium brought together leading medical educators to consider what kind of pre-doctoral education is needed to prepare physicians for leadership and participation in disease prevention and health promotion efforts. Co-sponsoring the symposium were the Office of Disease Prevention and Health Promotion, the Division of Medicine of the former Health Resources Administration,* and a number of medical education and specialty organizations including the American College of Preventive Medicine, the American Medical Association, the Association of American Medical Colleges, the Association of Teachers of Preventive Medicine, and the Council of Medical Specialty Societies. Workgroups were devoted to extensive discussions on questions about the physician's role in health promotion and the implications for medical education. Proceedings of the symposium appeared in the 1982 May-June issue of *Public Health Reports*, followup activities are being planned.

Two other activities aimed at the preparation and involvement of health professionals in health promotion were a conference on the role of the physician in risk reduction and the development of model nutrition curricula and teaching materials for health professionals. The Bethesda Conference on the Role of the Physician in Preventing Cardiovascular Diseases was co-sponsored by the American College of Cardiology, the American Heart Association, the National Heart, Lung and Blood Institute, and the Centers for Disease Control. Proceedings of this conference were published in the March 1981 issue of the *American Journal of Cardiology*. A working group that includes staff of the National Heart, Lung and Blood Institute is working to implement many of the plans made by the conferees. To promote good health through knowledge of nutrition, the Food and Drug Administration contracted with the University of North Carolina to develop a model course in applied nutrition for health professional students. These self-instructional programs will complement the nutrition curricula developed under contract with the Division of Medicine (Health Resources Administration) for medical schools.

The Office of Disease Prevention and Health Promotion, in cooperation with the Office of Health Maintenance Organizations, the Center for Health Promotion and Education, and numerous executive directors, medical directors, and directors of

*On September 1, 1982 the Health Resources Administration and the Health Services Administration were reorganized into the new Health Resources and Services Administration.

health education and health promotion programs in HMOs throughout the country, prepared a handbook to assist HMOs in providing health education and health promotion services. *Guidelines for Planning Health Education and Health Promotion Programs in HMOs*, the result of the cooperative effort, was published in early March of this year and is being distributed throughout the HMO, group practice, and college health service communities. The Office of Disease Prevention and Health Promotion staff worked jointly with HMO health promotion directors and representatives of academia to produce another resource for these institutions—a series of evaluation and "best practice" papers for a two-part special issue of the *Health Education Quarterly* on managing health education programs in HMOs.

The Diabetes Control Program at the Centers for Disease Control has been helping its State project personnel in obtaining private and public third party reimbursement for the costs of outpatient diabetes education and for followup services. In Maine, for example, Blue Cross/Blue Shield of Maine, Medicare, and the State Medicaid agency have agreed to pay for approved diabetes education services as a separately covered service. Initial findings suggest that the incidence of rehospitalization has been reduced substantially among those diabetics who took part in this program and that it is proving to be cost-effective for the insurers.

In early January of 1982, the Food and Drug Administration announced the formation of a new Committee on Patient Education. This committee will provide a focal point for the activities of the Food and Drug Administration (FDA) and other government agencies active in educating consumers about prescription drugs. The committee also will serve to coordinate private sector activities. The committee will identify new ways to inform consumers about prescription drugs and other products regulated by FDA; work closely with health professionals to provide more information to patients; evaluate existing and new patient information systems; and assess the effectiveness of patient education. The committee will provide the Secretary of DHHS with regular reports and recommendations. In addition, FDA is cooperating with the National Heart, Lung, and Blood Institute and others on a sodium education program, which focuses on both consumers and health professionals, to increase public understanding of the relationship between sodium and high blood pressure.

Community Settings

The community offers a wide range of possible settings for health promotion activities. The success of several recent community-based programs in reducing potential risk factors has provided encouraging evidence of the value of the programs in improving the health of large numbers of people. A community-based program can mobilize schools, health care facilities, business, industry, local media and voluntary groups to achieve health promotion goals.

Formal and informal structures within a community often offer an environment better suited to public education than larger institutions. A wide variety of youth-serving groups, parents groups, self-help groups, treatment groups, social advocacy groups, voluntary health agencies, social service organizations, and community interest groups attest to the vitality and usefulness of community organizations. Many of these groups currently sponsor, or could sponsor, significant health promotion activities for their communities or neighborhoods.

The Stanford Heart Disease Prevention Program is one of the landmark community studies. It compared three California towns. One town received an extensive, sustained, community-wide mass media campaign to reduce risks associated with heart disease; the second received public education messages and intensive programs for those who wanted to modify habits such as smoking; the third served as a control group. Results showed that the first town had a substantial decrease in cardiovascular disease risks; the second town also had a substantial decrease in cardiovascular disease risks, plus more smokers who quit during the program stayed abstinent. The overall results were more positive in the first two towns than in the control community.

The National Heart, Lung, and Blood Institute is sponsoring three community-based demonstration programs for cardiovascular risk reduction. Each is evaluating the effectiveness of a different community intervention strategy. A new Stanford study, involving five communities, is gathering additional information on media strategies. The Minnesota Heart Health Program screens individuals and refers them to risk reduction programs in three sets of matched communities: two small towns, two large communities, and two suburban areas. One community in each set serves as a control. The Pawtucket Heart Health Program in Rhode Island is working with community organizations to identify individuals at risk for cardiovascular disease and build a climate of social support to reduce individual risk. There is one intervention community and one control community. These studies are expected to run for six to nine years and will collect morbidity and mortality data.

In 1982, the States will take over the primary funding role for State and local health education-risk reduction programs as part of the Preventive Health and Health Services Block Grant. The goal of the health education-risk reduction program is to reduce the risk of premature death and disability from chronic diseases or health conditions affected by smoking, alcohol use, hypertension, obesity, lack of exercise, stress, or accidents. The Center for Health Promotion and Education, in cooperation with the Office on Smoking and Health and the National Institute on Alcohol Abuse and Alcoholism, administered the program before it was transferred to the States. In 1981, funds were awarded for the continuation of 54 State and territorial programs in 156 community intervention projects. Of those, 125 projects focused on deterring smoking and alcohol abuse in children and adolescents. Forty-five of these intervention projects have been identified as highly successful and with good potential for replication. The Center worked with the Conference of State and Territorial Public Health Educators to convene a national health education/risk reduction conference in the Fall of 1981. Nearly 300 persons from 50 States and territories attended. Following up on the conference, the Center is preparing the proceedings and offering help to States that want to conduct risk factor prevalence surveys. The Center continues to assist State and local agencies to build their capacity to initiate, evaluate, strengthen, and deliver health promotion programs.

For the past three years, Title V, Maternal and Child Health funds for special projects of regional and national significance have supported several demonstration projects targeted on prevention of accidents and injury control during childhood. These projects emphasize community-based, epidemiological approaches to accident prevention and injury control. A broad spectrum of agencies, organizations, and individuals are involved in these activities. Information and results will be used as the basis of efforts to improve parent counseling programs on childhood accident and injury control.

The Health Care Financing Administration has continued to monitor and provide technical assistance to States in implementing the Early and Periodic Screening, Diagnosis and Treatment program (EPSDT) targeted to Medicaid-eligible children under age 21. This program links a number of preventive health concepts, including periodic screening, into a comprehensive services program. It is unique in Medicaid in its emphasis on active outreach to assure appropriate services to vulnerable children.

The Office of Disease Prevention and Health Promotion has completed a program of technical assistance to 22 communities that have developed, implemented, or substantially expanded health promotion programs. Articles based on knowledge gained from these programs were prepared for publication in appropriate journals, and specific technical assistance papers were written on such subjects as the use of media in community programs. A program development guidebook is being prepared in answer to requests from community groups interested in health promotion programs.

The 1982 fiscal year marks the beginning of a cooperative agreement between the Office of Disease Prevention and Health Promotion and four of the Nation's leading non-profit organizations in the development of a National Health Promotion Training Network. Cooperating agencies are those with large networks of community volunteers. The National Coalition of Hispanic Mental Health and Human Services Organizations, the National Urban League, the National Board of YMCAs, and the American National Red Cross will work together to develop methods for training agency staffs to conduct sound health promotion programs. Eventually, training "packages" will be developed which agency staffs will share. These "packages" will provide specific information on the skills necessary to adopt healthy habits.

The Department has initiated several major media campaigns to reach targeted groups through radio, television, and print sources. These campaigns provide material for community coalitions that are unequipped to develop their own media packages, and to complement more intensive programs offered in other settings. The "HealthStyle" campaign was carried out nationwide by the Office of Disease Prevention and Health Promotion to educate the general public about health risks. The campaign was organized around a "HealthStyle" quiz that helps individuals assess which of six areas—smoking, nutrition, exercise, stress management, alcohol and drug use, and safety—holds the most risk for them. Television, radio, and print public service announcements in English and Spanish were distributed nationwide to advertise the quiz. In nine test cities across the country, local coalitions of interested agencies set up community information networks and other events to help people reach local sources of help.

Other significant media campaigns have been sponsored by the Office on Smoking and Health, the National Institute on Alcohol Abuse and Alcoholism, the National Heart, Lung and Blood Institute, the Office of Family Planning, and the Food and Drug Administration. The Food and Drug Administration's National Center for Drugs and Biologics, for example, has begun a campaign to educate consumers about the safe and effective

use of prescription drugs. The campaign uses the "over-medicated society" as its theme.

In January 1982, the National Institute on Alcohol Abuse and Alcoholism launched a major public education program aimed at women and youth. Television, radio and print materials on three topics were distributed to State agencies for dissemination to broadcast outlets. In addition, State and local agencies and voluntary groups are sponsoring a variety of related health promotion activities to reinforce the media messages.

The Office of Family Planning has developed four public service announcements that motivate adolescents to think and act responsibly about sex and that promote communication between parents and children about human growth and development, reproduction, and responsible decision-making. The National Heart, Lung and Blood Institute developed an innovative television program format to give in-depth treatment to the topic of high blood pressure. Called the "TV Module," the program is composed of a script and filmed segments for a half-hour television special. The program can be adapted for use in local communities around the country. Local authorities are identified, and technical assistance is provided to enable non-network stations to carry the program with a relatively small investment. This program was tested in five cities and is now in demand by television stations around the country. The Department is considering other campaigns that might assist in putting forward boldly and prominently the DHHS goals and themes in particular program areas.

Specific Populations

Although many American adults 20–64 years of age are engaging in positive health practices, population subgroups have markedly different habits. For example, although about 40 percent of adults with 13 years or more of education had at least four of five good health practices, only 30 percent of those with less than 12 years of education had as many (23). The burden of disease falls more heavily on less educated groups. In addition, some subgroups such as the elderly have been overlooked in health promotion programming because of a belief that they would not benefit. Several outstanding programs are proving the error of this notion.

The national health promotion framework has therefore cross-cut the key settings for health promotion activities to give special attention to specific groups whose cultural and social practices may require special approaches, whose lifestyles may put them at higher risk, or who might be overlooked by health promotion programs. These specific population groups include ethnic and racial minorities, those with low income and low education, and older adults. It is recognized that even within these subgroups are populations diverse in culture, language, health status, and needs.

Many of the activities prescribed on the preceding pages, such as the National Health Promotion Training Network, are targeted to specific population groups. Briefly described below are some additional programs that focus on the needs of specific populations.

The Office of Disease Prevention and Health Promotion has held a series of five one-day workshops for special population groups in the development of national health promotion and disease prevention policy. The recommendations of these workshops are included in a summary report of the proceedings which was released in 1981. To follow up on the recommendations of the group representing elderly persons, and in preparation for the White House Conference on Aging, two nationally known experts prepared an extensive background paper on health education and aging.

Acting on the recommendations of the American Indian group represented at the workshops, the Office of Disease Prevention and Health Promotion has met with specific tribes and urban Indian groups to discuss their health promotion priorities. Four Pueblo tribes in New Mexico requested technical assistance in developing a health promotion demonstration program including physical fitness/exercise, weight control and nutrition, smoking cessation, and high blood pressure control. To secure management expertise and other resources for this and similar projects, private funding and technical assistance sources have been sought. In addition, the Indian Health Services Nutrition and Dietetics Training Center has developed maternal and child health modules for use by tribal personnel employed in nutrition programs, and has field tested obesity modules in 12 sites.

As a companion to *Promoting Health/Preventing Disease: Objectives for the Nation*, the Bureau of Community Health Services within the Health Services Administration developed and distributed a guide to help personnel in primary care centers, including those designed to serve migrant workers, evaluate and upgrade their health promotion programs. The guide provides ideas and resources for new approaches to health promotion services for rural and ethnic minority low-income clients.

The "Healthy Mothers/Healthy Babies" public information program aims to provide information on healthy behavior for low-income pregnant women and women planning pregnancies. The Public Health Service is cooperating in this effort with approximately 40 agencies such as the March of Dimes Birth Defects Foundation, the American Academy of Pediatrics, the American Nurses Association, the American College of Obstetricians and Gynecologists, National PTA, and the U.S. Department of Agriculture. Posters, information cards, and radio public service announcements have been designed in Spanish and English with messages on nutrition, smoking, alcohol use, medical care during pregnancy, and other topics of interest to women. The organizations in the coalition have initiated other activities as well—a newsletter to exchange information and a directory of educational materials on prenatal and infant care.

In October of 1982, the Secretary of the Department of Health and Human Services announced a major initiative to mobilize public and private action against the problem of alcohol abuse by young Americans. About three million young Americans aged 14-17 years old have problems with the use of alcohol. Today, alcohol-related vehicle accidents are the leading cause of death among young drivers aged 16 to 24. The initiative will include model dissemination programs, joint initiatives with the private sector, and interagency cooperative efforts.

The Center for Health Promotion and Education has initiated two demonstrations to test the use of health risk appraisals with low-income Black and Hispanic populations. To date, health risk appraisal has been used primarily by white middle-class populations; it shows promise as a way to motivate people to take positive health actions.

Several projects have shown the potential of health promotion for older Americans. The Center for Health Promotion and Education has completed a special nutrition project for the elderly that developed and evaluated a peer counseling approach. The evaluation alone enlisted 283 senior citizens in urban, rural, and suburban communities. The results showed significant improvements in nutrition knowledge and behavior. The first National Conference on Fitness and Aging was held in September of 1981, co-sponsored by the President's Council on Physical Fitness and Sports and General Foods Corporation in cooperation with 32 national agencies and organizations working with the elderly. More than 600 professionals and laypersons attending the conference heard research findings on the positive effects of exercise and witnessed demonstrations by authorities on exercise, nutrition, recreation, rehabilitation, and sports medicine.

The Administration on Aging has sponsored at least two health promotion projects. One produced a training package, including films to stimulate discussion and a materials development guide, to teach health care providers special techniques for use with elderly patients. The other involves a cooperative agreement with the University of Washington to develop and disseminate a guide for health promotion programming for older adults. The first stage of training, for professionals and representatives of voluntary organizations working with the elderly, took place in spring of 1982. The trainers who took part will train others in their constituencies. In addition, the National Institute on Drug Abuse (NIDA) is working with the American Association of Retired Persons and the National Retired Teachers Association in the dissemination of *Elder-Ed*, a program developed by NIDA to assist the elderly in managing their medications.

Health Promotion Objectives

There are a number of important activities that support and contribute to the Department's National Health Promotion Program. They provide the guidance as well as the scientific and technical basis for the specific activities cited above. Chief among them is the work being done to realize the goals outlined in *Promoting Health/Preventing Disease: Objectives for the Nation*.

The Federal Government is responsible for directing the Nation's activities toward attainment of these objectives, but the effort must be collective, and it must have local roots. If the goals are to be reached, individuals, organizations, and governments at all levels must work together.

The Public Health Service has just completed plans for the Federal contribution to attainment of the national objectives. Fifteen areas (see Chapter 4) have been identified in which health promotion and disease prevention measures might be expected to achieve further gains. A plan has been developed for each. The plans, which are to serve as working documents with the expectation that they will evolve over time, include: (a) a brief summary of the health problem the plan addresses; (b) a statement of the primary objectives of the Federal effort; (c) a description of the role of the Federal Government in prevention efforts and a description of ways in which State, local, and private sector activities can complement Federal efforts; (d) a summary of existing and proposed Federal activities; and (e) a list of cooperating agencies within DHHS and other Federal and non-Federal agencies cooperating in the prevention effort.

Sound data systems are required to measure our progress toward attainment of the national objectives. Indeed, data are central to effective efforts in health promotion, health protection or the delivery of personal preventive health services, both for the development of program targets and for program monitoring. The Public Health Service is in the process of determining the data systems required to track progress in each of the fifteen areas for which implementation plans have been developed. Once the data requirements are identified, existing data sources and information gaps will be defined. Regional, State and private sector data generating mechanisms will be included in the coordinated data system developed to monitor the status of the national objectives.

The Centers for Disease Control is working with the States to help them identify State-based prevention objectives that are compatible with national objectives. To this end, CDC is helping the States develop the analytical methods necessary to link the national objectives to State health plans and State health department programs. When State-specific objectives have been identified, intervention strategies tailored to State health priorities will be developed. CDC has developed model standards for community-level preventive health services and is working with several States to implement and evaluate the model standards.

Prevention Related Research

Prevention and health promotion programs can only be as strong as the research base upon which they are founded. Therefore, it is particularly important to strengthen this scientific and technical base. To move ahead, comprehensive knowledge of the relationship of the environment, personal behavior, individual biological makeup, and the health care system to overall health status is needed.

The National Institutes of Health (NIH) has long been involved in research fundamental to gains in prevention. NIH administers a comprehensive research program that seeks to understand the nature of disease. The product of this research is essential knowledge about life, disease and malfunction. The ultimate aim is to prevent disease and premature death and to assure each person the maximum opportunity for a productive life free from disability. At the Secretary's request for NIH to strengthen its focus on prevention research, a special office for prevention has been established at the Director's level and a comprehensive inventory and plan are being developed.

Many agencies beyond NIH are involved in prevention-related research. Modern prevention research has become more complex as the trends in illness in the United States have changed. Today, the identification of effective motivational strategies to foster measures conducive to health pose new challenges for researchers.

As a result, relevant research efforts have also been initiated by the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA), the Centers for Disease Control (CDC), the Health Resources and Services Administration, the Food and Drug Administration (FDA) and the National Center for Health Services Research (NCHSR).

Health services research, for example, helps to translate the knowledge gained through basic research into effective programs that control or prevent disease and minimize disability. The research program at the NCHSR provides information on the effectiveness of the techniques and strategies used to promote health and techniques involved in the promotion of health and the prevention of disease. This information is essential to decision-makers at all levels of the health care delivery system. NCHSR-supported research also helps to develop more accurate measures of health status, to identify factors that influence delivery of preventive services, and to identify factors which affect personal health practices and patient adherence to medical recommendations.

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In sum, the range of DHHS activities in health promotion is indeed broad, and it is growing—as evidenced by the vast activities reviewed in *Prevention '82*. But the multi-faceted National Health Promotion Program which has been launched by DHHS is dependent for its success on the full participation of the country's many private and voluntary organizations. Indications to date suggest that a strong public-private partnership is emerging which will do much to enhance the health of Americans.

The remainder of *Prevention '82* is designed to highlight the leading accomplishments in prevention, measure the Nation's progress toward its prevention objectives, and summarize the Federal contributions to achievement of the objectives.

Chapter Two assesses our progress in enhancing health by reporting trends in health status indicators for five age groups: infants, children, adolescents and young adults, adults, and older adults. Chapter Three chronicles the efforts of the Department of Health and Human Services in the broad range of prevention priority areas. Chapter Four provides a complete inventory of prevention activities, according to prevention program categories, within the Department of Health and Human Services.

Taken as a whole, the efforts described in these chapters represent substantial growth toward the measures needed to meet the health improvement goals of our National Health Promotion Program.

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Chapter 2:

Health Status Trends

Progress in disease prevention must be measured in terms of the reductions of preventable health problems—the absence of illnesses, injuries, and deaths that, based on previous experience, might otherwise have been expected to occur. This chapter of *Prevention '82* displays in chart form various aspects of health-related trends, both for the population as a whole and the five age categories: infants (under 1 year), children (1 to 14 years), young adults (15 to 24 years), adults (25 to 64 years), and older adults (65 years and older). The health trends depicted in these charts highlight the major causes of disease and death for each age group.

Health Status Trends

Overall Trends

In 1978 the National age-adjusted[1] death rate declined to 606 per 100,000 people, the lowest level ever recorded in the United States and a 66 percent reduction from the 1900 rate (Figure 1).[2] This dramatic reduction demonstrates the Nation's success in preventing and treating acute infections and diseases. Influenza and pneumonia death rates, for example, fell from 210 to 15 per 100,000 population, a decline of 93 percent. On the other hand, death rates for many chronic diseases have increased. Cancer rates have risen since the turn of the century from 81 to 134 per 100,000; heart disease death rates have increased from 167 to 208 per 100,000.

Interestingly, the rate of death from stroke declined from 134 to 45 per 100,000 population, and the death rate from accidents declined from 76 to 44 per 100,000. The decline in the age-adjusted stroke death rate was consistent with the overall death rates, so that in 1978 it accounted for approximately the same proportion of deaths as in 1900. Successful efforts to reduce the number of deaths from both heart disease and stroke have more recently effected substantial decreases in the death rate from these diseases.

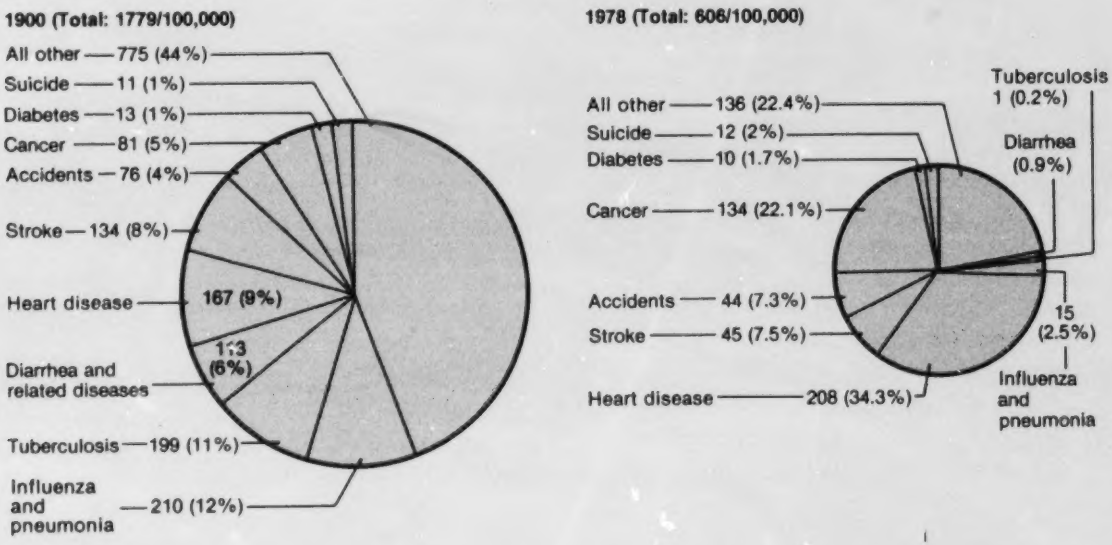
Note the differences in trends in age-adjusted death rates from selected causes for the period 1900 to 1978 (Figure 2). Death rates from heart disease increased between the year 1900 and about 1950, then declined at an accelerating pace. Death rates from cancer, on the other hand, increased rapidly during the first half of the century, and continued to increase, though more slowly, through 1978. Death rates from stroke have decreased steadily since 1900. The most dramatic decreases were for the infectious diseases such as influenza and pneumonia, for which reductions of 80 percent were achieved between 1925 and 1950.

The contrast between falling influenza and pneumonia death rates on the one hand, and rising cancer death rates on the other, provides a dramatic example of trends with complex roots. Multiple factors are clearly involved: life-saving improvements in the prevention and treatment of infectious diseases; changing lifestyles, both detrimental and favorable to health; a changing environment; and, not the least important, the improved standard of living that has alleviated conditions contributing to susceptibility to infectious diseases.

[1] Age-adjusted death rates show what the level of mortality would be if there were no changes in the age composition of the population from year to year and are therefore better indicators than unadjusted rates of changes over time in the risk of dying. All rates mentioned in this report are age-adjusted.

[2] Data for 1900 are for the 10 death-registration States and the District of Columbia. This area accounted for only 26 percent of the population of the Continental United States.

Figure 1. Leading Causes of Death in 1900 and Levels for 1978

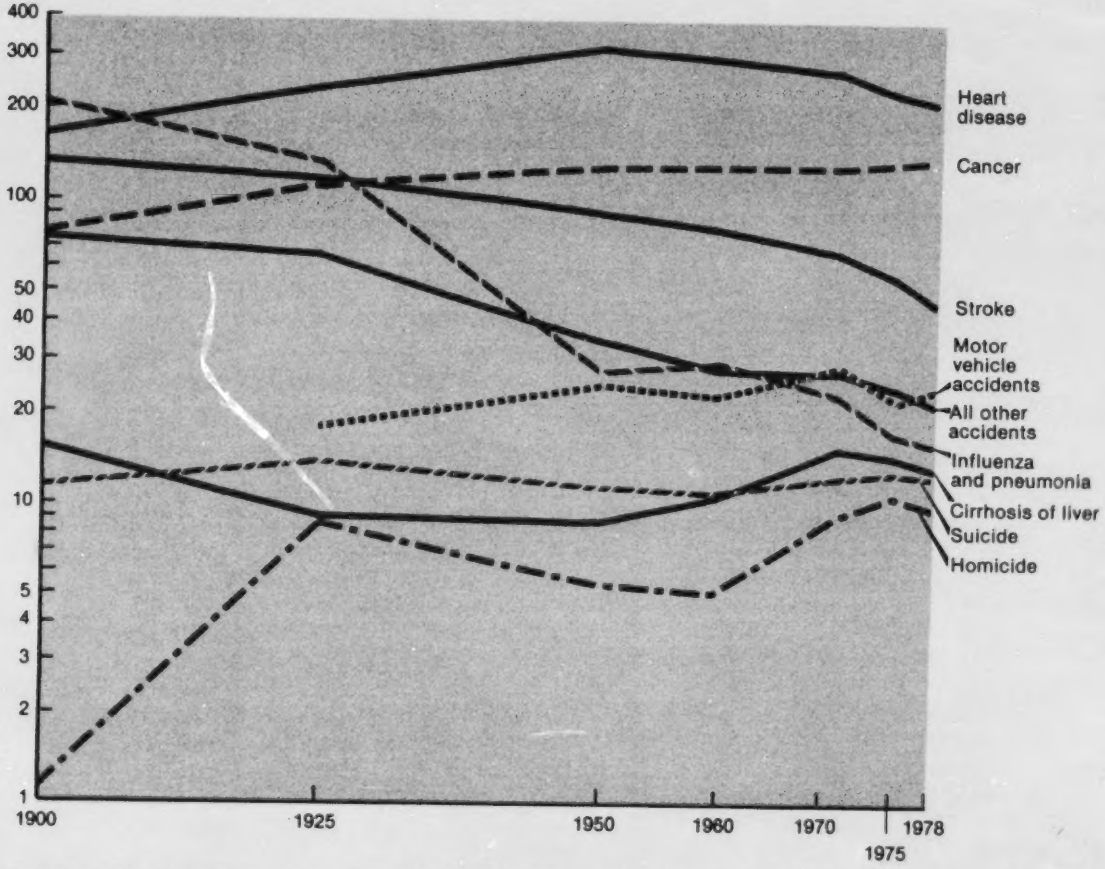

1900 (Total: 1779/100,000)
All other — 775 (44%)
Suicide — 11 (1%)
Diabetes — 13 (1%)
Cancer — 81 (5%)
Accidents — 76 (4%)
Stroke — 134 (8%)
Heart disease — 167 (9%)
Diarrhea and related diseases — 113 (6%)
Tuberculosis — 199 (11%)
Influenza and pneumonia — 210 (12%)
1978 (Total: 606/100,000)
All other — 136 (22.4%)
Suicide — 12 (2%)
Diabetes — 10 (1.7%)
Cancer — 134 (22.1%)
Accidents — 44 (7.3%)
Stroke — 45 (7.5%)
Heart disease — 208 (34.3%)
Tuberculosis 1 (0.2%)
Diarrhea (0.9%)
15 (2.5%)
Influenza and pneumonia

Overall age-adjusted death rate per 100,000 for the leading causes of death in 1900 compared with 1978. Age adjusted to the 1940 U.S. Population; numbers in parentheses indicate percentages of total age-adjusted death rate.

Source: National Center for Health Statistics

Figure 2. Trends in Age-Adjusted Death Rates From Selected Causes: Selected Years, 1900-1978

Rate per 100,000 population



Note: Discontinuities in trends for selected years may reflect periodic changes in the *International Classification of Diseases*. Age adjusted to the 1940 U.S. Population.

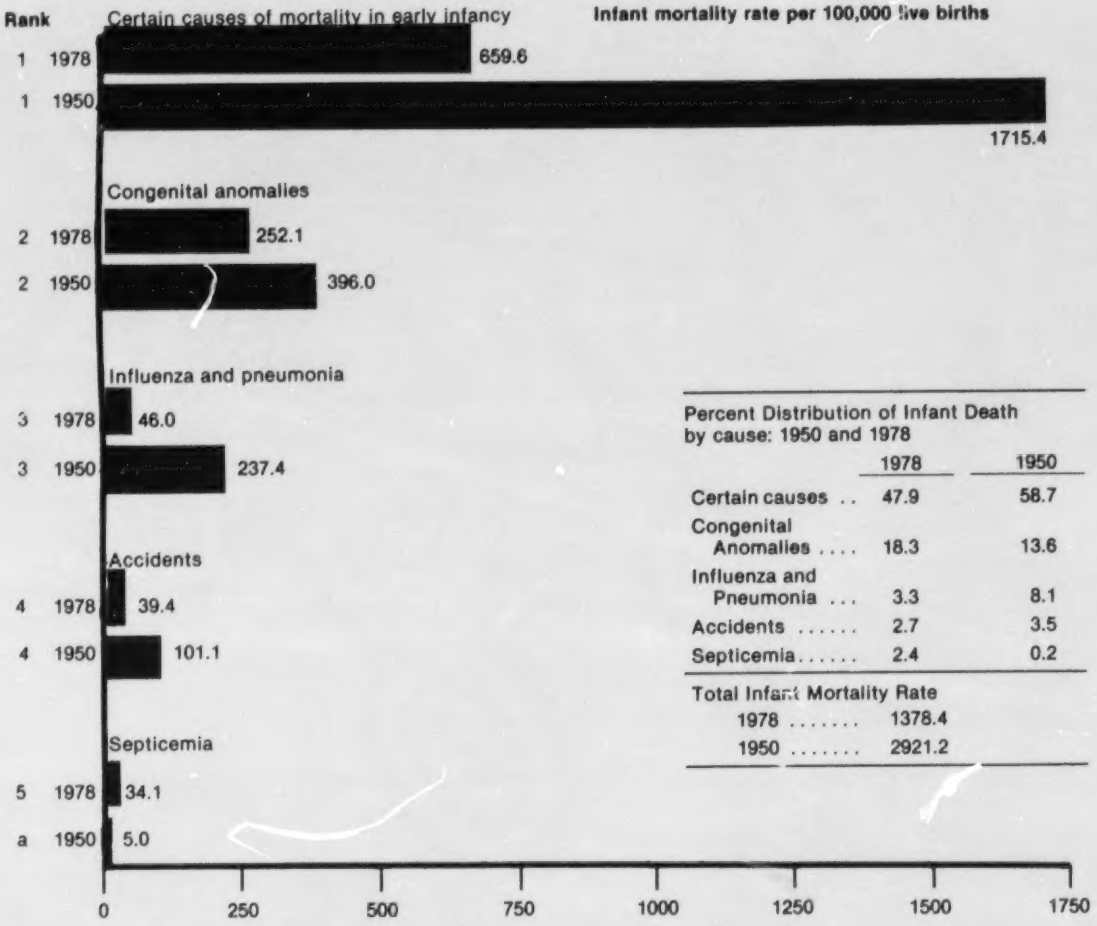
Source: National Center for Health Statistics

Healthier Infants

Continuing a long-term downward trend, in 1978 the rate of infant deaths reached the lowest level ever recorded in the United States—fewer than 14 for each 1,000 live births. Since 1950, the overall rate for infants has fallen by about one half, reflecting reductions in most causes of infant deaths. Infant mortality rates from influenza and pneumonia dropped dramatically from 237 to 46 for each 100,000 live births between 1950 and 1978, a decline of 81 percent (Figure 3). In 1978, about 48 percent of the deaths were caused by immaturity and birth-associated conditions. These conditions included respiratory distress syndrome, hyaline membrane disease, unspecified asphyxia of the newborn, birth injury without mention of cause, and other complications of pregnancy and childbirth. The 1978 figures represent a decline in the proportion of deaths from these causes from about 59 percent of all infant deaths in 1950, and is consistent with a drop of nearly 53 percent in the overall infant mortality rate (Figure 3).

Figure 3. Major Causes of Infant Deaths: 1950 and 1978

Age Group - Less Than 1 Year



Percent Distribution of Infant Death by cause: 1950 and 1978

	1978	1950
Certain causes ..	47.9	58.7
Congenital Anomalies	18.3	13.6
Influenza and Pneumonia ...	3.3	8.1
Accidents	2.7	3.5
Septicemia.....	2.4	0.2

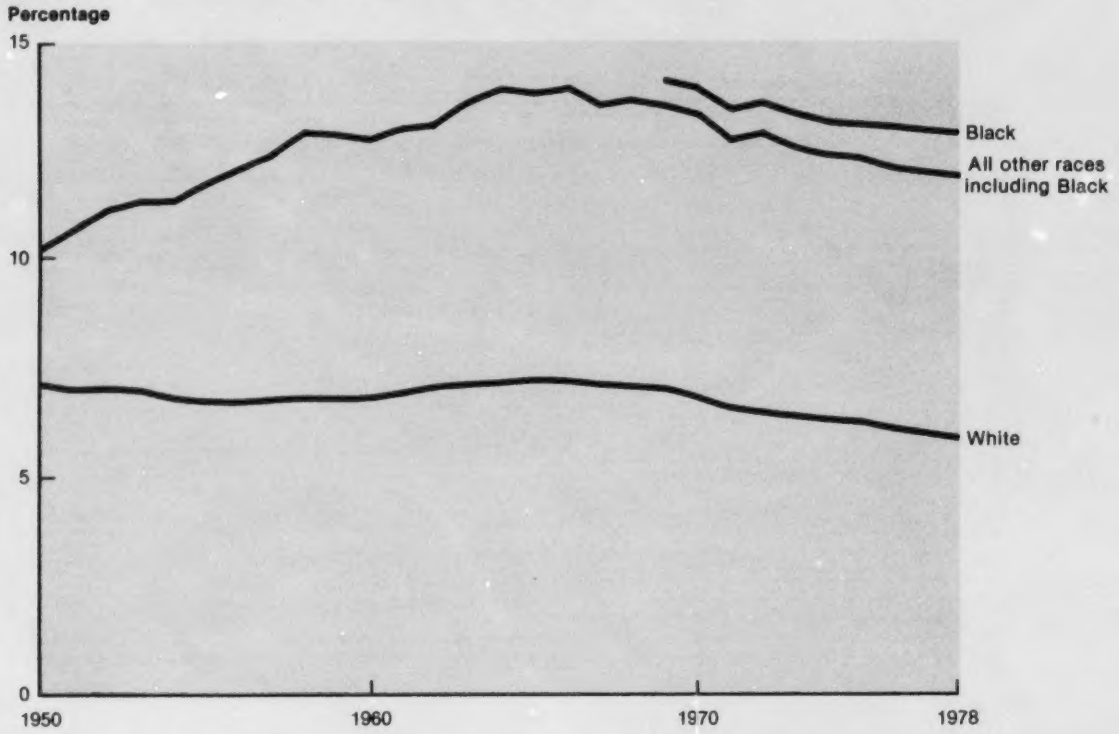
Total Infant Mortality Rate

1978	1378.4
1950	2921.2

(a) Not ranked in first 10 leading causes of death.

Source: National Center for Health Statistics

Figure 4. Percentage of Infants of Low Birth Weight, By Race: 1950-1978



Source: National Center for Health Statistics

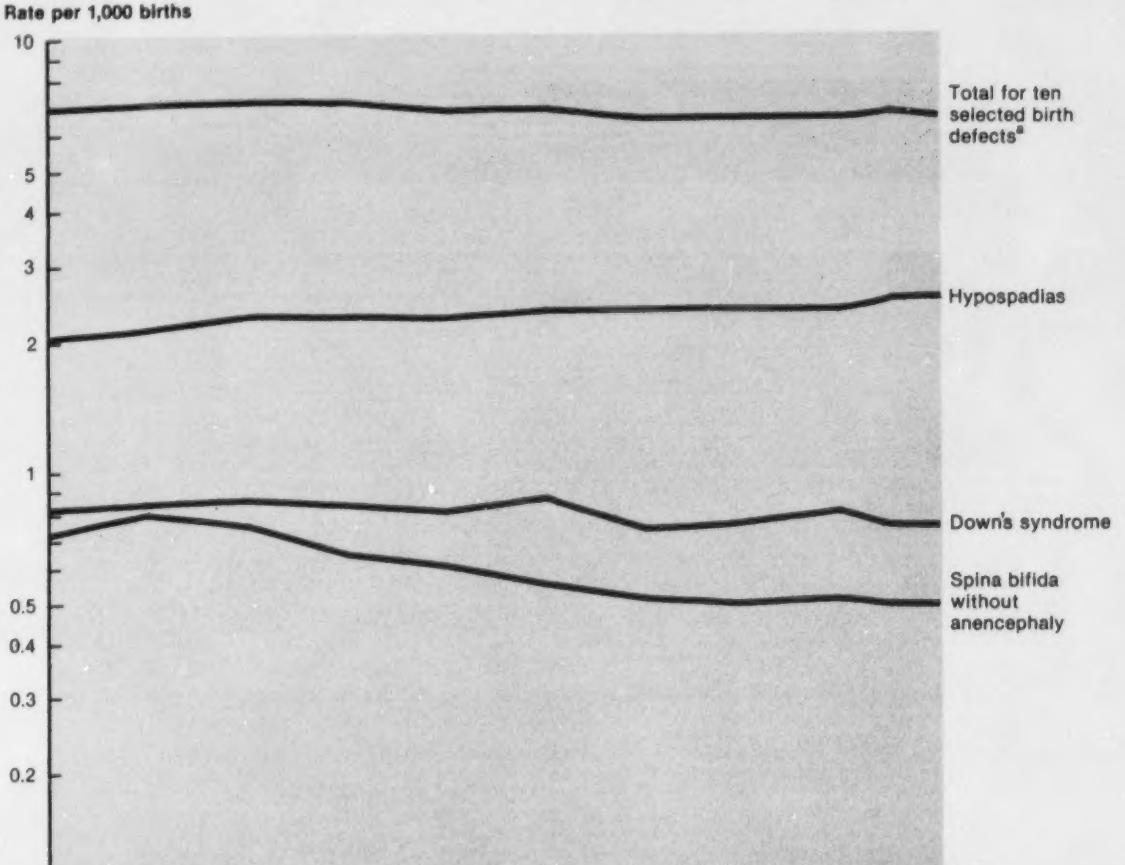
The proportion of low birth weight infants—those newborn infants weighing 2,500 grams (5 pounds 8 ounces) or less—is an objective, easily measured, probably best correlated with deaths from immaturity and other birth-associated conditions. Trends in percentages of infants of low birth weight peaked in 1965 and 1966 and have declined gradually since then (Figure 4). Although since 1966 smaller proportions of both white and non-white newborns have fallen in this range, large disparities in percentages of low birth weight infants persist among the races, underscoring the special importance of addressing this problem among black women of childbearing age. A number of maternal factors are associated with low birth weight, including lack of prenatal care, poor nutrition, smoking, alcohol and drug use, age, race, and social and economic background.

The category of congenital defects was the leading single identifiable cause of infant deaths in 1950 and in 1978. This group of birth defects comprises those caused by developmental or genetic problems rather than injuries *in utero* or during birth. The infant mortality rate for congenital anomalies fell somewhat from 1950 to 1978 and remained relatively stable from 1970 to 1978 (Figure 3). Only recently has it become possible to track the incidence of birth defects with the benefit of a national birth defects detection and reporting system.

It is estimated that between 1970 and 1980 the total number of birth defects reported for the ten most common types showed a small decline (Figure 5). For some birth defects, spina bifida without anencephaly, for example, there was a small decline during the 1970s; while for others, such as hypospadias, there was a small increase. That infant mortality rates from birth defects have fallen over this same period, while the incidence of birth defects has not, reflects advances in neonatology, delivery techniques, urgent care of newborns, and special surgical methods.

Prevention activities directed toward reducing birth defects include: immunization against rubella (German measles) to prevent occurrence of the disease during early pregnancy; genetic counseling for parents at high risk of having infants with birth defects; public education campaigns to emphasize hazards to the fetus presented by alcohol, drugs, and tobacco; and special attention given to identification of toxic exposures that might injure the developing fetus.

Figure 5. Trends in Reported Incidence Rates of Ten Selected Birth Defects: 1970-1980

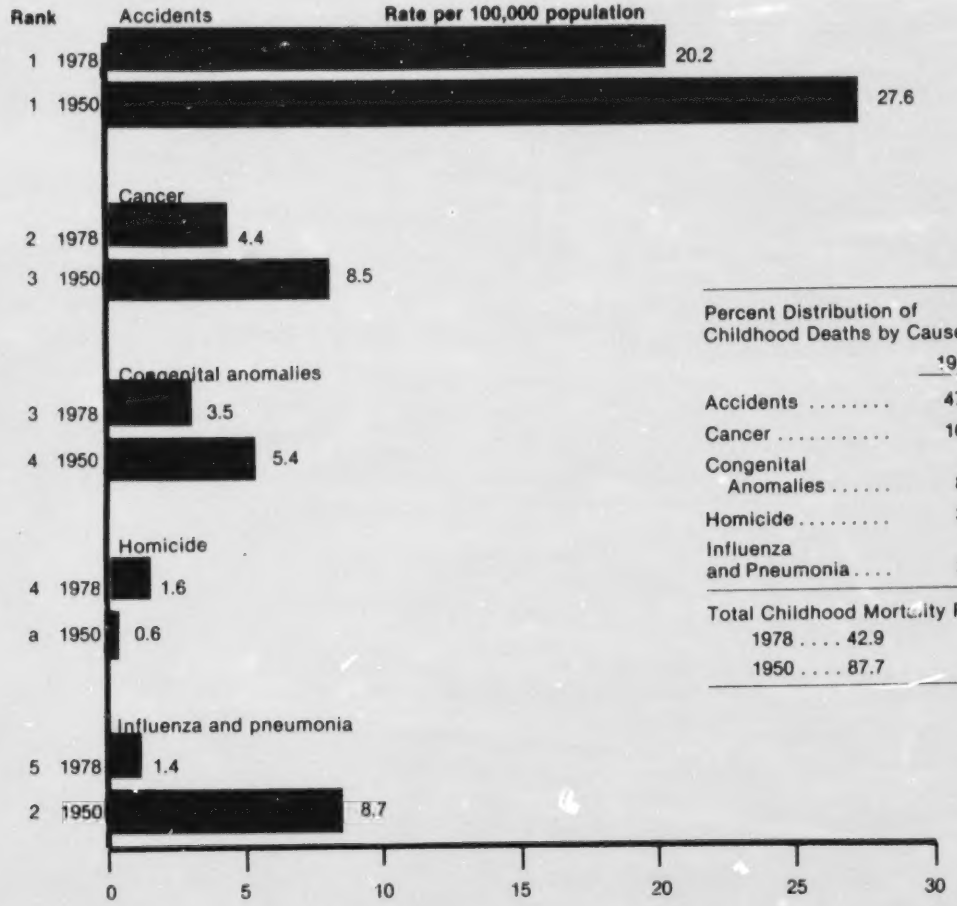


(a) "Selected defects" are the following ten defects, which were selected from among those tracked by the Center for Disease Control Birth Defects Monitoring Program: anencephaly, spina bifida without anencaphaly, hydrocephalus without spina bifida, cleft palate without cleft lip, total cleft lip, tracheoesophageal fistula, rectal atresia and stenosis, hypospadias, reduction deformity, and Downs syndrome. Individual births are counted more than once if more than one defect is reported.

Source: Centers for Disease Control.

Figure 6. Major Causes of Childhood Deaths: 1950 and 1978

Age group 1-14 years



Percent Distribution of Childhood Deaths by Cause: 1950 and 1978

	1978	1950
Accidents	47.1	31.5
Cancer	10.3	9.6
Congenital Anomalies	8.2	6.2
Homicide	3.7	0.6
Influenza and Pneumonia	3.3	9.9

Total Childhood Mortality Rate
1978 . . . . 42.9
1950 . . . . 87.7

(a) Not ranked in first 10 leading causes of death.

Source: National Center for Health Statistics

Healthier Children

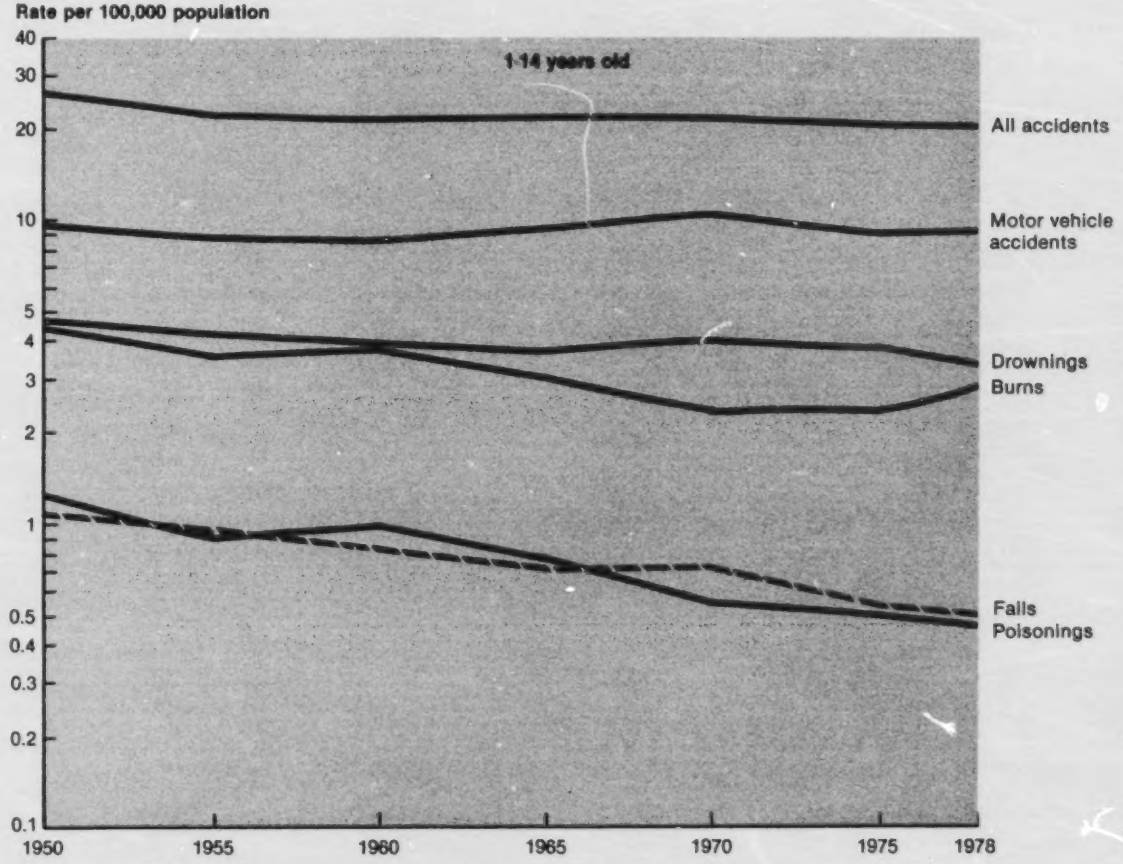
From 1950 to 1978 the death rate for children aged 1 to 14 fell from 88 to 43 per 100,000 population, a reduction of more than 50 percent. The change in rates for particular causes of death has varied widely in both magnitude and direction since 1950 (Figure 6).

Accidents, still the single largest cause of death among children 1 to 14, declined 29 percent—from 28 to 20 per 100,000—between 1950 and 1978. Motor vehicle accidents accounted for about half the accidental deaths in this age group in 1978; although there were fewer such deaths from 1973 to 1975, following the gasoline shortage and adoption of the 55-mile-per-hour speed limit, more recent trends for this cause have not been favorable (Figure 7).

Other major causes of accidental deaths which have dropped since 1950 are burns, falls, and poisonings. The death rate for drownings has remained comparatively constant (Figure 7). Alcohol is a significant factor in many of these accidental deaths; cigarette smoking is a factor in many fire-related deaths; and a substantial proportion of drownings occur in unattended bodies of water. A major challenge for the 1980s will be to find effective measures for reducing motor vehicle fatalities for children while continuing our efforts to control the other causes of accidental deaths.

Since 1950, impressive reductions in death rates among children have also occurred for influenza and pneumonia and for cancer (Figure 6). The influenza and pneumonia death rate fell by 84 percent for children, a particularly pronounced drop for this age group, although the decline occurred among all groups under age 65. Improvements in access to health care and in living conditions for low-income and minority groups have been important contributors to this reduction, along with advances in medical treatment and in prevention through immunization.

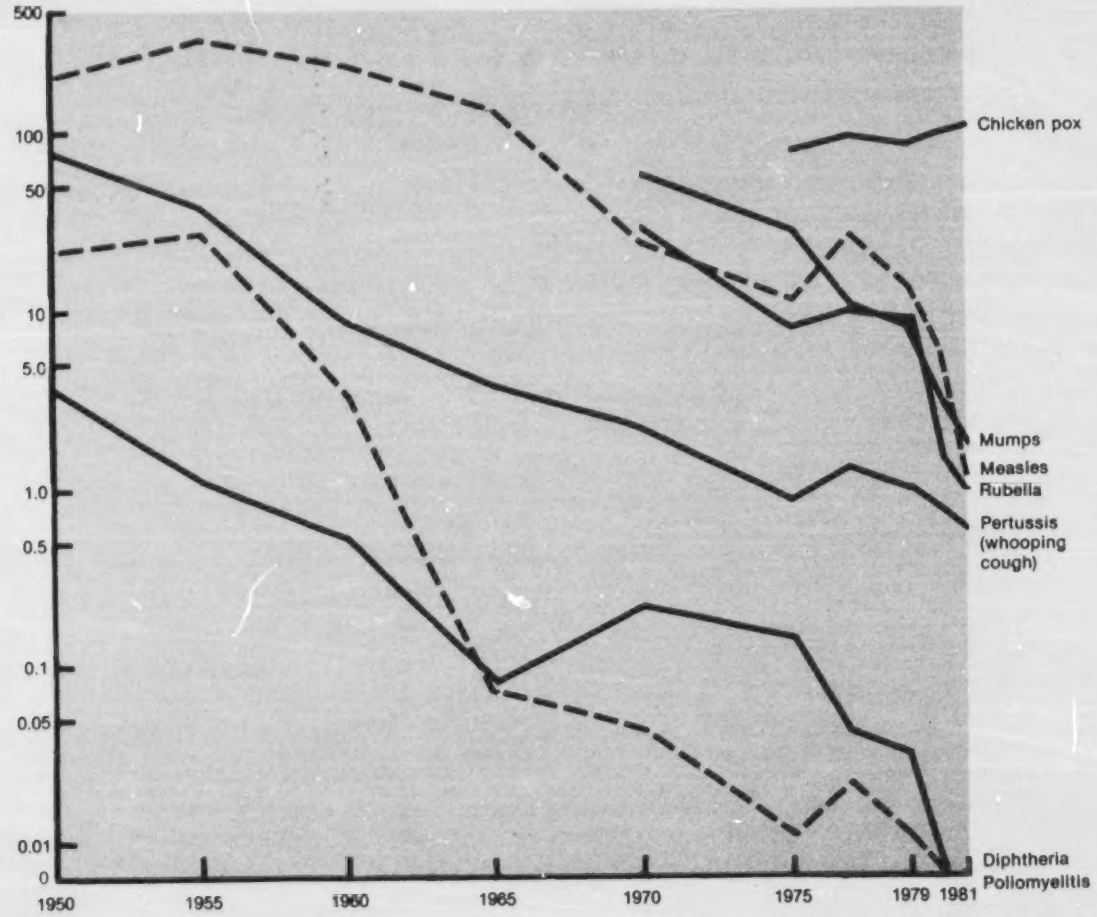
Figure 7. Trends in Accidental Death Rates for Children, From Selected Causes: Selected Years, 1950-1978



Note: The selected years are 1950, 1955, 1960, 1965, 1970, 1975, and 1978.

Source: National Center for Health Statistics

Figure 8. Trends in Reported Incidence Rates of Childhood Diseases: Selected Years, 1950-1981



Source: Center for Disease Control

The 48 percent reduction in rates of death from cancer among children is largely attributable to improvements in treatment of childhood leukemia, lymphoma and Hodgkin's disease. The death rate from leukemia has been reduced by approximately one half since 1950.

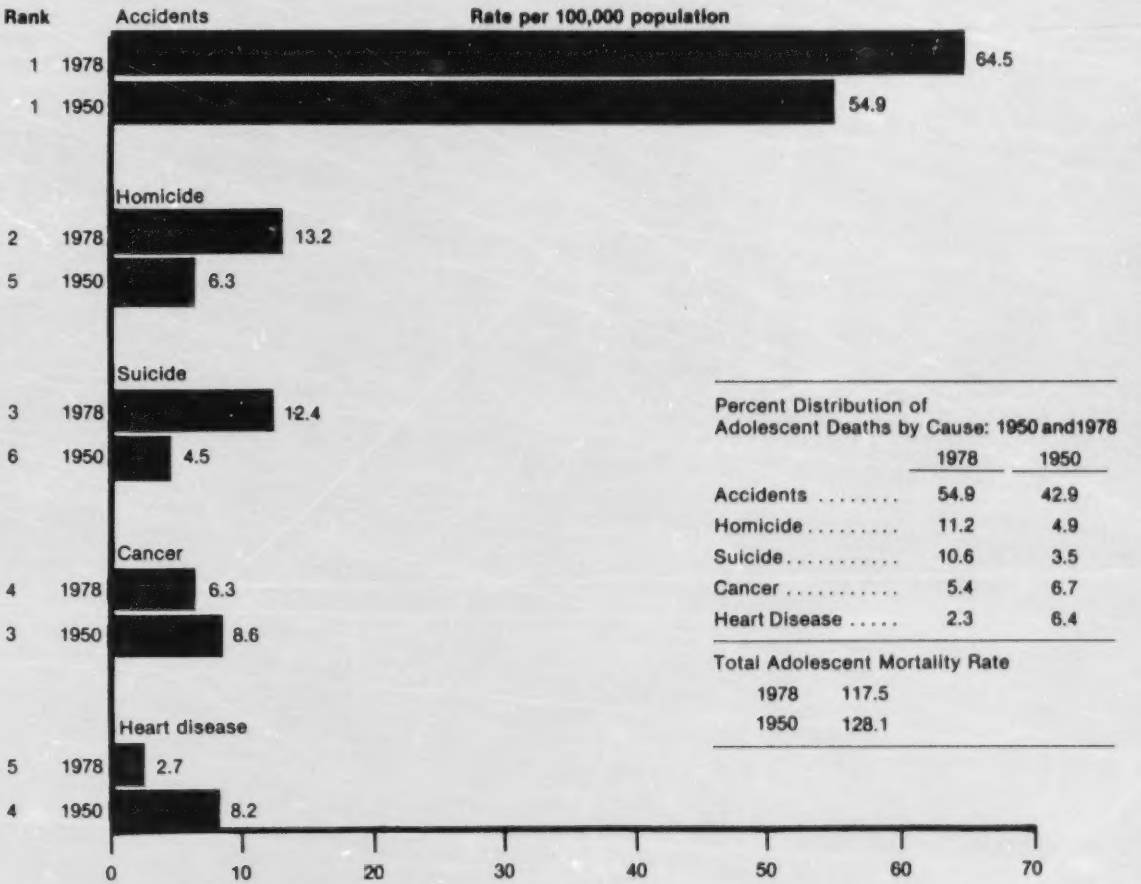
Another major target of the national prevention program is the incidence of childhood vaccine-preventable diseases (Figure 8). The remarkable achievements in reducing the incidence of these diseases reflect the successes of immunization programs for children. However, occasional short-term reversals of trends (e.g., between 1974 and 1977) underscore the need for pursuing vigorously the highest possible immunization levels for young children.

Healthier Adolescents and Young Adults

Since 1950 the overall death rate for 15 to 24-year-olds has declined about 8 percent, while the changes in death rates for the various causes have varied widely (Figure 9). As with children, the single largest cause of death in this age range is accidents; but among adolescents and young adults, motor vehicle accidents account for more than 70 percent of all accidental deaths. For young people, death rates for infectious diseases, cancer, and heart disease declined, but death rates for suicide, homicide, and accidents all increased between 1950 and 1978.

Figure 9. Major Causes of Adolescent Deaths: 1950 and 1978

Age group 15-24 years



Percent Distribution of Adolescent Deaths by Cause: 1950 and 1978

	1978	1950
Accidents	54.9	42.9
Homicide	11.2	4.9
Suicide	10.6	3.5
Cancer	5.4	6.7
Heart Disease	2.3	6.4

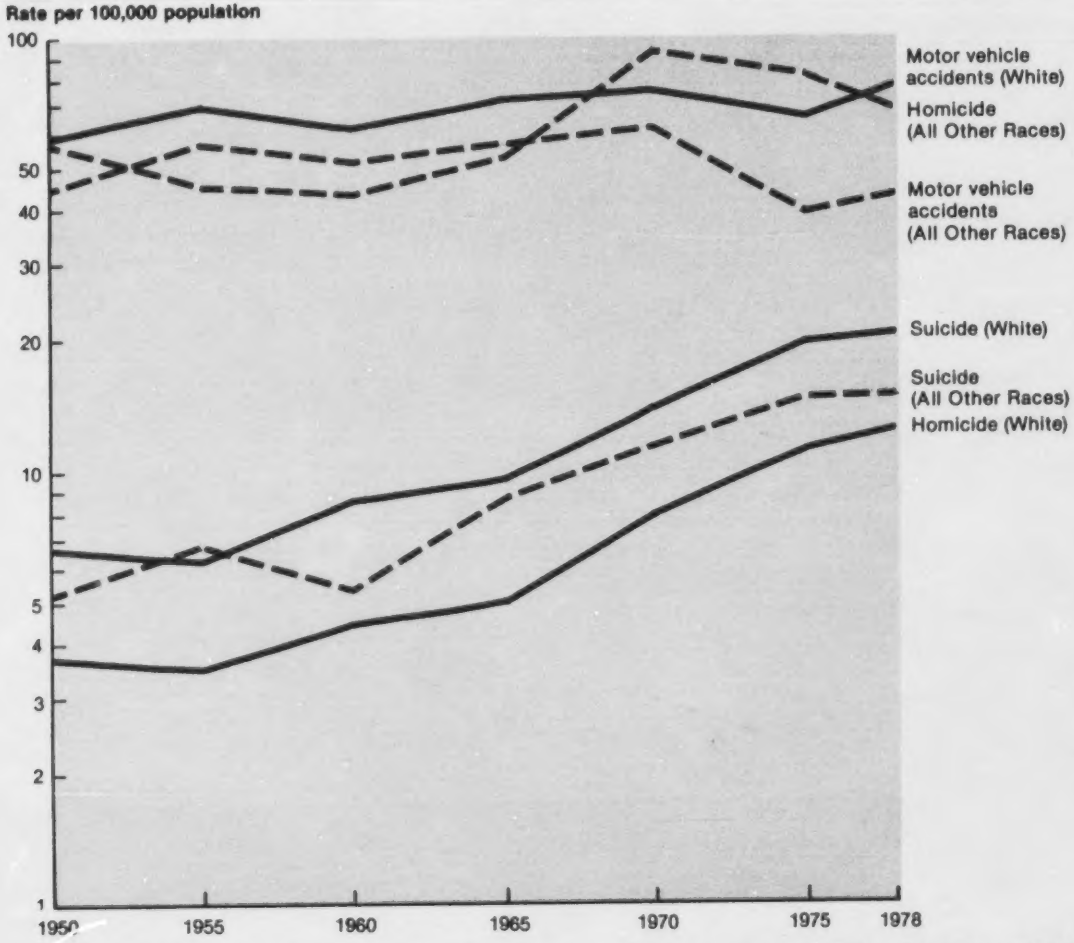
Total Adolescent Mortality Rate

1978	117.5
1950	128.1

Source: National Center for Health Statistics

Figure 10. Trends in Death Rates for Suicide, Homicide, and Motor Vehicle Accidents Among Adolescent Males, By Color: Selected Years, 1950-1978

15-24 year old males - White and All Other Races



Note: Discontinuities in trends for selected years may reflect periodic changes in the *International Classification of Diseases*.

Source: National Center for Health Statistics

Death rates for motor vehicle accidents, homicide, and suicide differ by sex and race among adolescents and young adults (Figures 10 and 11). For white males, motor vehicle death rates have risen since 1960, except for a small dip between 1973 and 1975 attributable to enforcement of lower speed limits during the gasoline shortage. For other males, the drop in motor vehicle accidents from 1973 to 1975 was more pronounced.

In 1978 motor vehicle accident deaths among 15 to 24-year-old white males outnumbered suicides by four to one and homicides by six to one. However, since the middle 1960s, homicide death rates among non-white males 15 to 24 years old have exceeded death rates for motor vehicle accidents. Fortunately, the homicide death rates for non-white young males have fallen by 28 percent since 1970.

Homicide death rates among white males from 15 to 24 years of age have increased sharply since 1955, however, the rate in 1978 for non-whites was about four times higher than that for whites and was the second leading cause of death among non-whites in this age group (compared to the third leading cause of death for white males 15 to 24 years of age). While the homicide death rates among young non-white males have experienced a recent drop, the rates for white males in this age group have not shown a similar decline. White males have higher rates of death for suicide than do non-white males, and the disparity between these rates has been increasing.

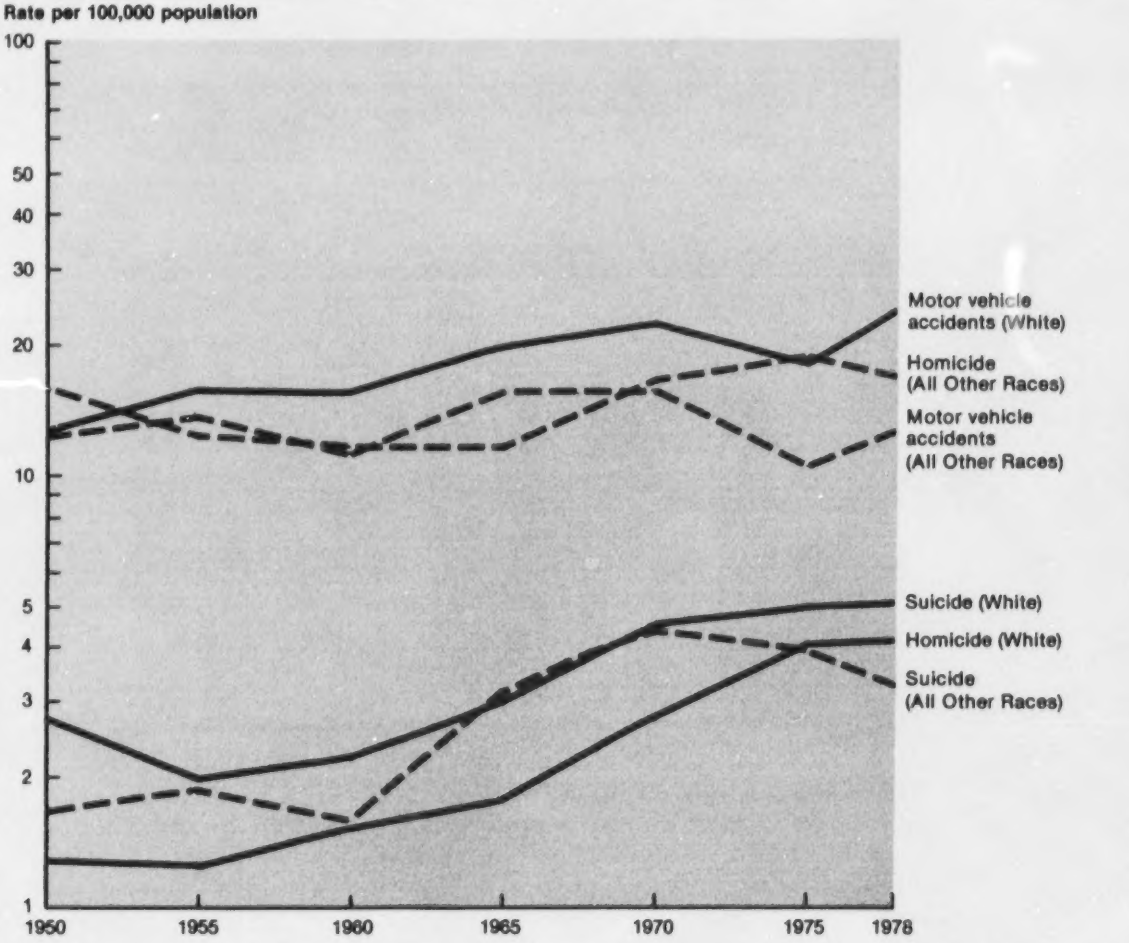
Among 15 to 24-year-old females, the overall 1978 death rate was only about one third that of males. Similarly, the rate of death for motor vehicle accidents for females was about a third the rate for males, and for homicide and suicide, about one fourth the rate for males (Figure 11).

Because many habits and lifestyle patterns evident in young adults carry over into later adult life, and may have pronounced implications for future health, much effort has been directed toward prevention of less desirable habits and patterns. Smoking, alcohol consumption, and illicit drug use are three of the most prominent target areas.

Since 1978, there has been a statistically significant decline in the usage of several substances by high school seniors. The most dramatic decrease is in the daily use of marijuana, which has progressively decreased from 10.7 percent in 1978 to 7.0 percent in 1981. There has been no significant change in the use of other substances, except stimulants which show a slight but statistically significant increase in daily use, from 0.7 in 1980 to 1.2 percent in 1981.

Figure 11. Trends in Death Rates for Suicide, Homicide, and Motor Vehicle Accidents Among Adolescent Females, By Color: Selected Years, 1950-1978

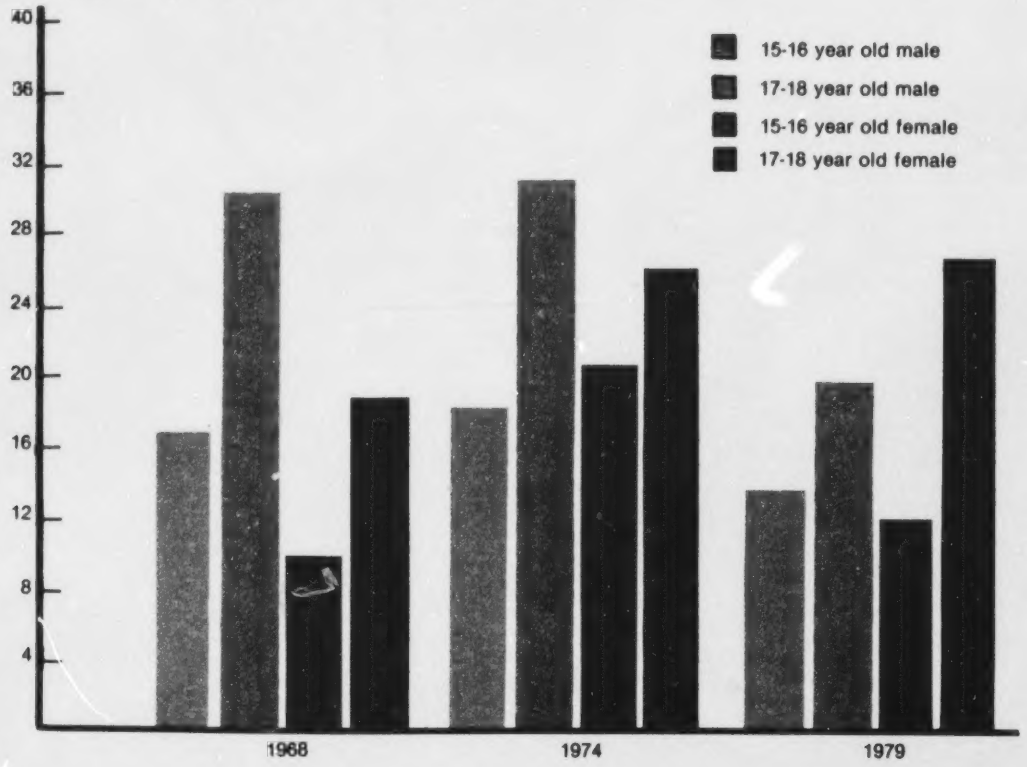
15-24 year old females - White and All Other Races



Note: Discontinuities in trends for selected years may reflect periodic changes in the *International Classification of Diseases.*

Source: National Center for Health Statistics

Figure 12. Cigarette Smoking Among Teenagers, By Age and Sex: 1968, 1974, and 1979

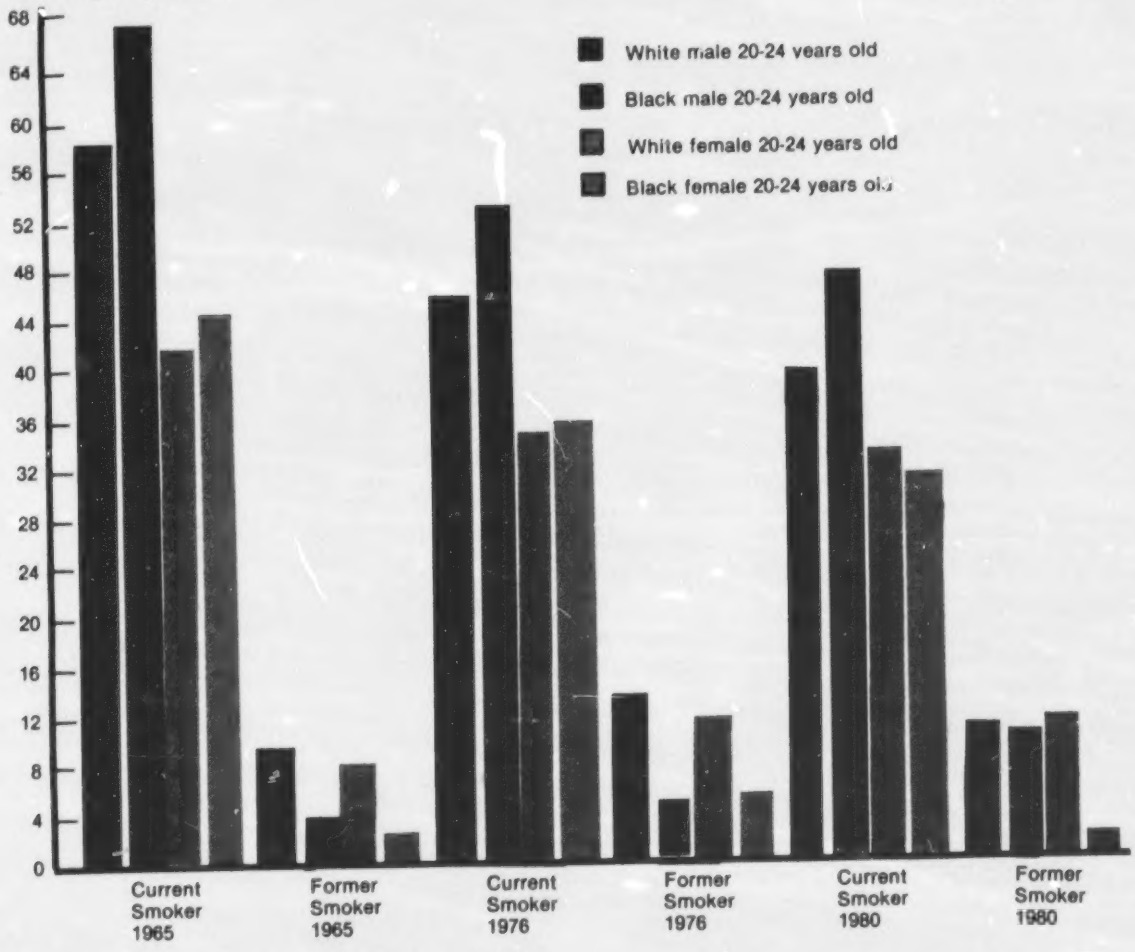


Source: National Clearinghouse on Smoking and Health

Data on smoking among adolescents indicate a substantial reduction between 1974 and 1979. The sole exception is that of 17 to 18-year-old females, for whom the proportion currently smoking remained the same between 1974 and 1979 (Figure 12). The large drop in smoking for younger females (15 to 16-year-olds) and males in both age groups may attest to the effectiveness of the educational campaign to warn youths of the dangers of smoking. Between 1978 and 1981, there has been a striking decrease in the daily use of cigarettes among high school seniors, going down from 27.5 percent to 20.3 percent.

Cigarette smoking has also declined recently among young adults 20 to 24 years old (Figure 13). Declines in the percent of the population currently smoking are large for each group with the exception of white females, for whom the 1976 and 1980 surveys showed little change for current smokers. Changes in smoking among young adults are attributable not only to a decrease in the number of individuals taking up the habit but also to an increase in the number of those giving it up.

Figure 13. Cigarette Smoking Among Young Adults, By Race and Sex: 1965, 1976, and 1980



Source: National Clearinghouse on Smoking and Health

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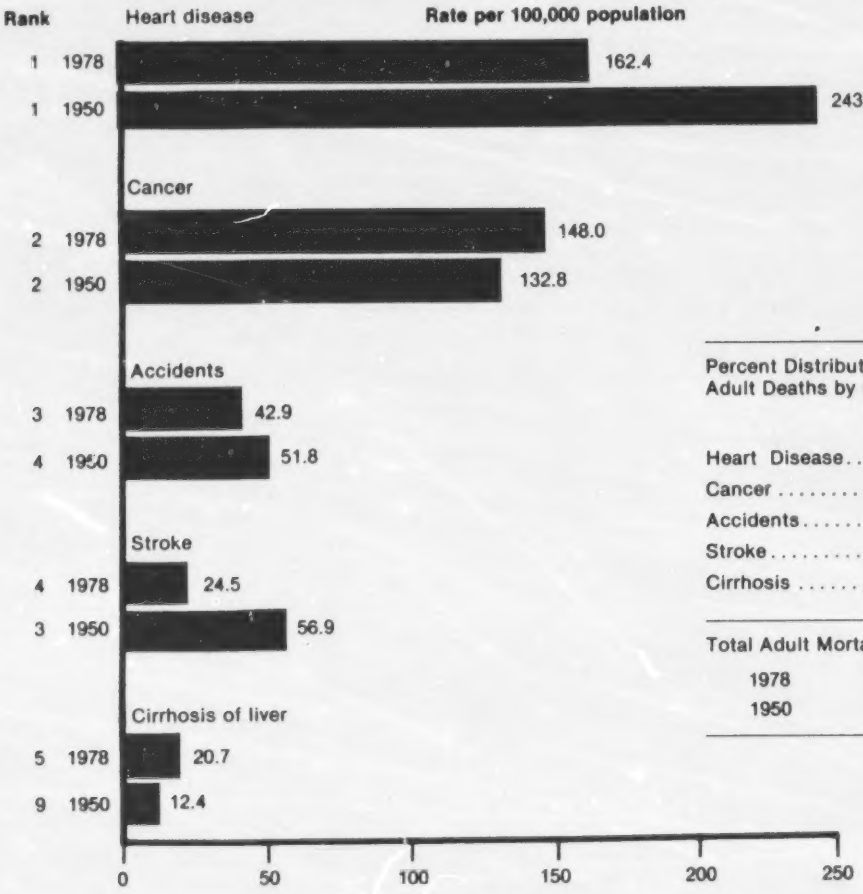
Figure 14. Major Causes of Adult Deaths: 1950 and 1978

Age group 25-64 years



Percent Distribution of Adult Deaths by Cause: 1950 and 1978

	1978	1950
Heart Disease	30.8	35.5
Cancer	28.1	19.3
Accidents	8.1	7.5
Stroke	4.6	8.3
Cirrhosis	3.9	1.8

Total Adult Mortality Rate

1978	527.6
1950	687.1

Source: National Center for Health Statistics

Healthier Adults

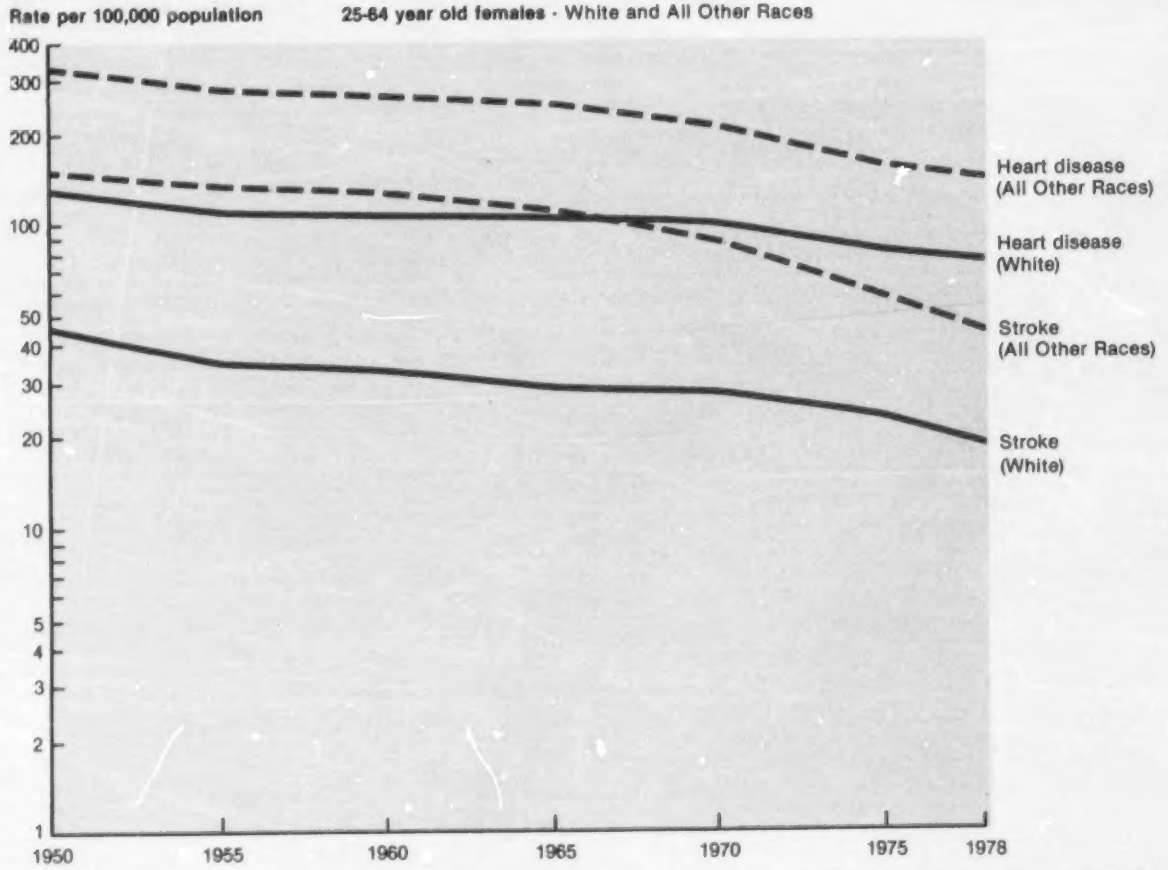
Until recently, the three leading causes of death among adults aged 25 to 64 were heart disease, cancer, and stroke. Since 1950, death rates for stroke and heart disease have been declining for all ages combined, and, as of 1978, for adults there has been a 33 percent reduction for heart disease and a 57 percent reduction for stroke (Figure 14). During this same period, cancer death rates increased 11 percent; accidental death rates fell 17 percent; and death rates attributed to cirrhosis of the liver increased by 67 percent. As a result, accidents have become collectively the third leading cause of mortality for this age group. In fact, stroke now ranks only slightly ahead of cirrhosis, the fifth-ranking cause of death for adults.

Heart disease death rates for non-white women are nearly twice those for white women, although rates for both groups are declining (Figure 15). Among men the rates differ between races less dramatically, but aggregate male death rates from heart disease are three times those for women (Figure 16).

For stroke, large differences in mortality are associated with race, with non-whites having death rates up to 2.5 times those for whites. The differences between death rates for men and women are small, but consistent, with women having the lower rates of death from stroke.

Prevention activities likely to result in further decreases in heart disease and stroke incidence are those related to risk factor reduction (smoking, diet, physical activity, and obesity) and control of high blood pressure. At the same time, medical technology should continue to reduce the mortality rates for those already affected by the disease.

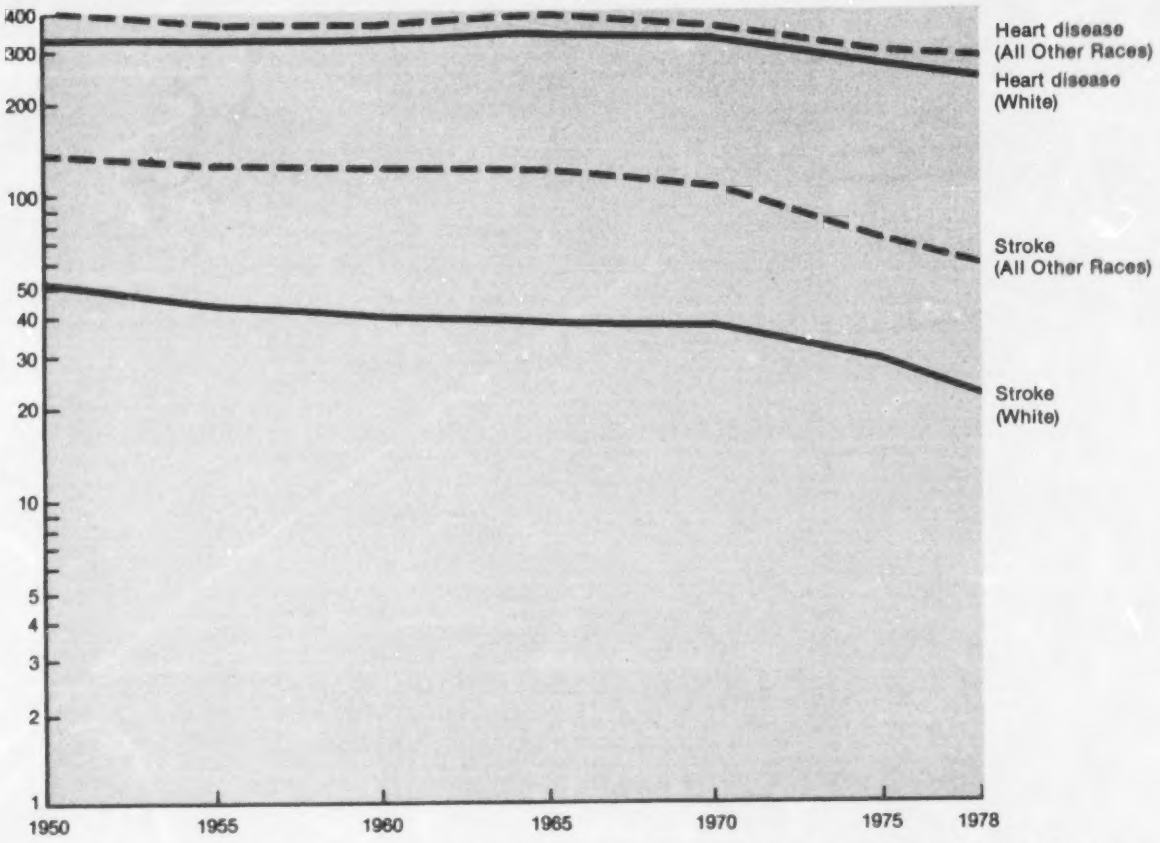
Figure 15. Trends in Death Rates for Heart Disease and Stroke Among Adult Females, By Color: Selected Years, 1950-1978



Note: Discontinuities in trends for selected years may reflect periodic changes in the *International Classification of Diseases.*

Source: National Center for Health Statistics

Figure 16. Trends in Death Rates for Heart Disease and Stroke Among Adult Males, By Color: Selected Years, 1950-1978



Note: Discontinuities in trends for selected years may reflect periodic changes in the *International Classification of Diseases*.

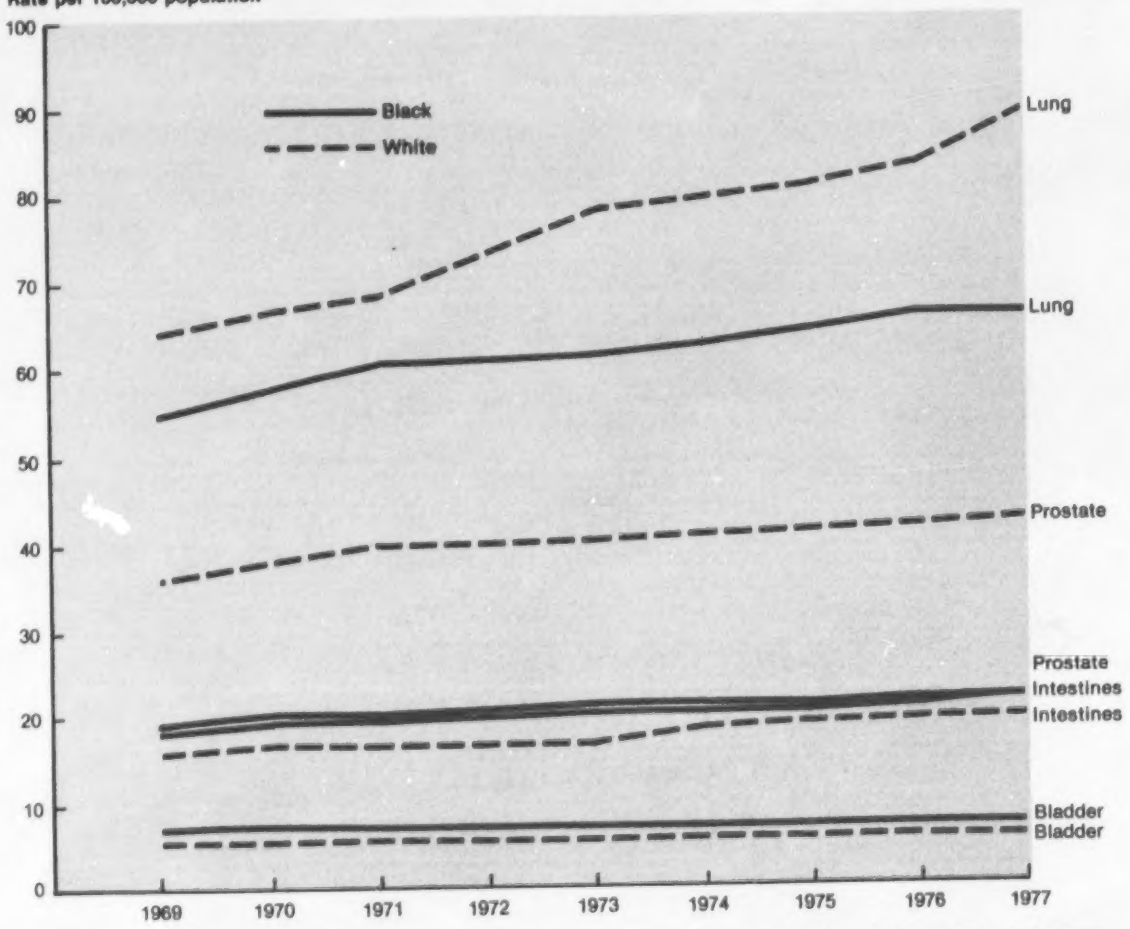
Source: National Center for Health Statistics

Cancers are collectively the second leading cause of death for adults. The 1969–1977 trends in cancer mortality rates and incidence at selected body sites vary for white males and females, depending upon the affected organ. Because of the limited geographic coverage of the DHHS surveillance system, national incidence rates have been estimated only since 1969 for the white population and since 1974 for blacks.

Reliable mortality data for various cancers have been available since 1967. For whites there are substantial increases in lung cancer mortality among females, reflecting increased smoking by women (Figure 18). Mortality from cancer of the cervix declined between 1969 and 1977, while mortality from cancer of the uterine corpus increased.

Though some gains have been made with respect to treatment of certain cancers, prevention must be a major component of any broad strategy. Because of the long time periods over which cancer develops, the results of these prevention efforts may not be reflected immediately in declining death or incidence rates.

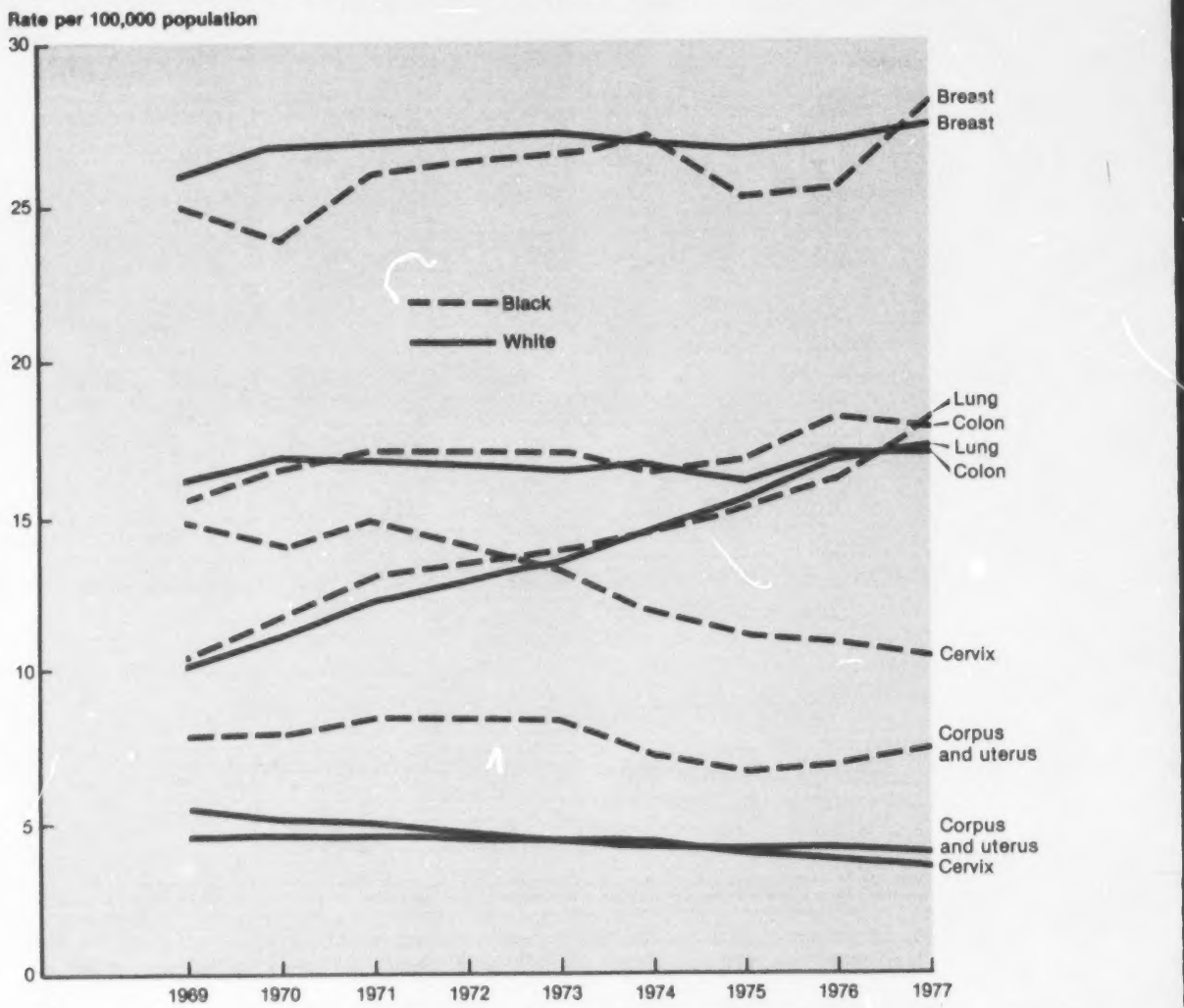
Figure 17. Age-Adjusted Cancer Death Rates for Males, By Site and Race: Selected Years, 1967-1977



Notes: The selected years are 1969, 1970, 1971, 1973, 1974, 1975, 1976, and 1977. Age-adjusted to 1970 U.S. population.

Source: National Cancer Institute.

Figure 18. Age-Adjusted Cancer Death Rates for Females, By Site and Race: Selected Years, 1967-1977



Notes: The selected years are 1969, 1970, 1971, 1973, 1974, 1975, 1976, and 1977. Age-adjusted to 1970 U.S. population.

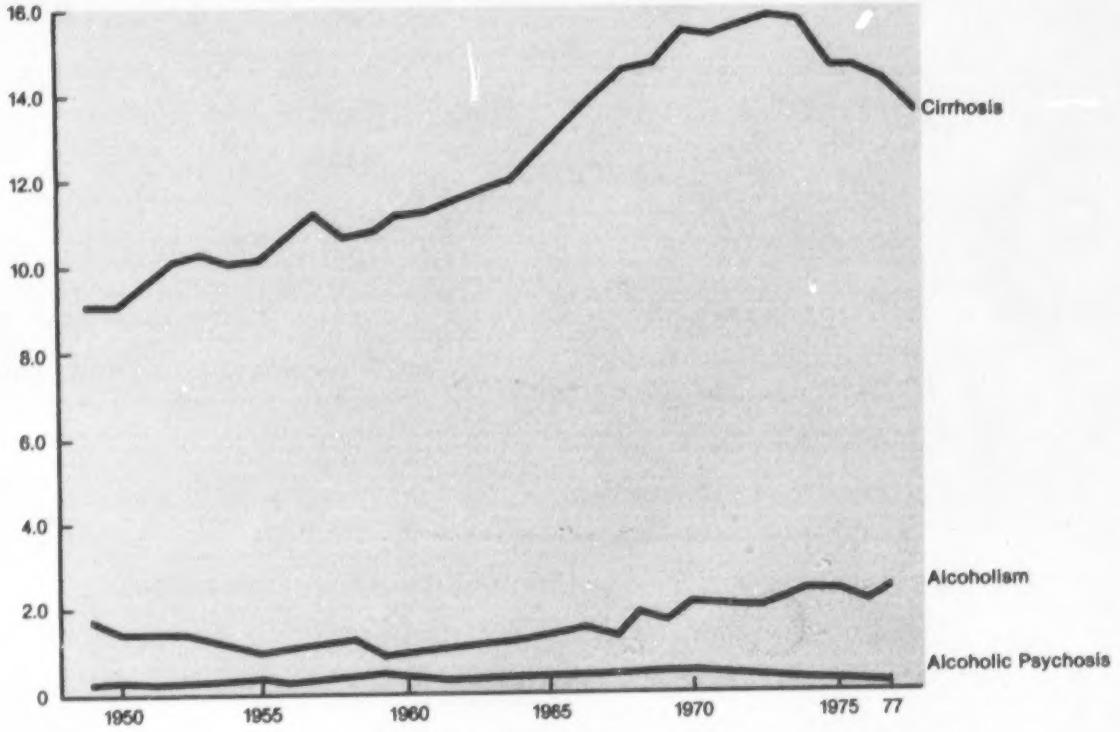
Source: National Cancer Institute.

Among both adults and younger people, alcohol abuse and alcoholism are associated with large numbers of preventable illnesses, injuries, and deaths. According to the National Institute on Alcohol Abuse and Alcoholism, 10 percent of adults who drink can be classified as problem drinkers. Another 26 percent are reported as having potential problems. The public health consequences of problem drinking include injuries and deaths from falls; violence; industrial and motor vehicle accidents; and medical and psychosocial damage such as cirrhosis (the fifth leading cause of death among adults), of which more than 90 percent is associated with excessive use of alcohol; pancreatitis; nutritional deficiencies; cancer; and fetal alcohol syndrome.

Since 1950, there have been significant trends in three selected mortality rates associated with alcoholism and alcohol abuse (Figure 19). The total cirrhosis death rate increased by 37 percent from 1960 to 1970, gradually leveled off, then decreased 10 percent between 1973 and 1977. Deaths related to alcoholic psychosis and alcoholism increased between 1969 and 1970, when alcoholic psychosis began to decrease despite a slight, continuous increase in alcoholism deaths.

Figure 19. Trends in Selected Alcohol-Associated Causes of Death: 1949-1978

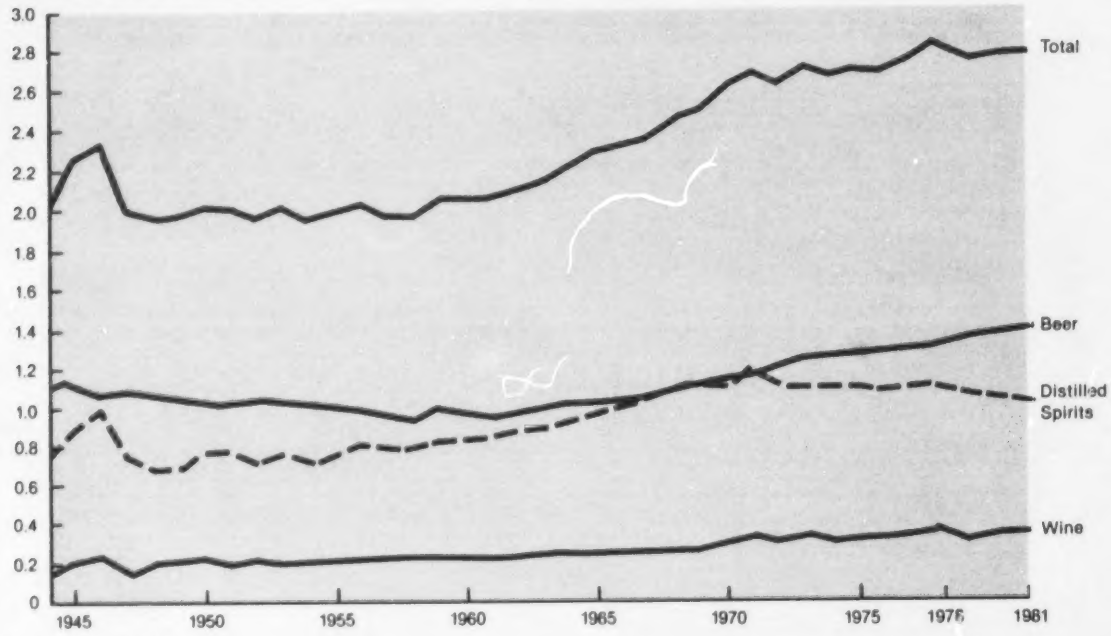
Rate Per 100,000 Population



Source: National Institute on Alcohol Abuse and Alcoholism

Figure 20. Trends in Apparent Per Capita Ethanol Consumption, Based on Beverage Sales: 1944-1981

Gallons Per Person[a]



(a) In U.S. gallons.

Source: National Institute on Alcohol Abuse and Alcoholism

Per capita rates of alcohol consumption rose approximately 20 percent during the 1960s, 8.7 percent during the 1970s, and 9.9 percent during the period 1970 to 1981. Overall, the increase between 1960 and 1981 in per capita rates of alcohol consumption was 33.8 percent. In 1981, per capita consumption was estimated as 2.77 gallons of ethanol per year for United States residents aged 14 years or older (Figure 20). In terms of various beverages consumed, this amounts to 331-12 oz. cans of 4.5 percent beer, 12-fifths of 14.5 percent table wine, and 11.8-750 ml. bottles of 43 percent (86 proof) distilled spirits per year, per person 14 years of age and older. It should be noted that abstainers are included in the derivation of this per capita consumption rate. An inflation factor of roughly 50 percent should be added to the estimated per capita consumption to derive the per capita consumption for only the drinking fraction of the population. It is important to note that only 30 percent of the drinking population accounts for 80 percent of the total amount of alcohol consumed, and that 10 percent of all drinkers account for 50 percent of the alcohol consumed in the United States. These proportions suggest that the most effective prevention strategies may relate to reducing the number of light drinkers who enter the heavy, problem-drinking group and to preventing the attendant consequences.

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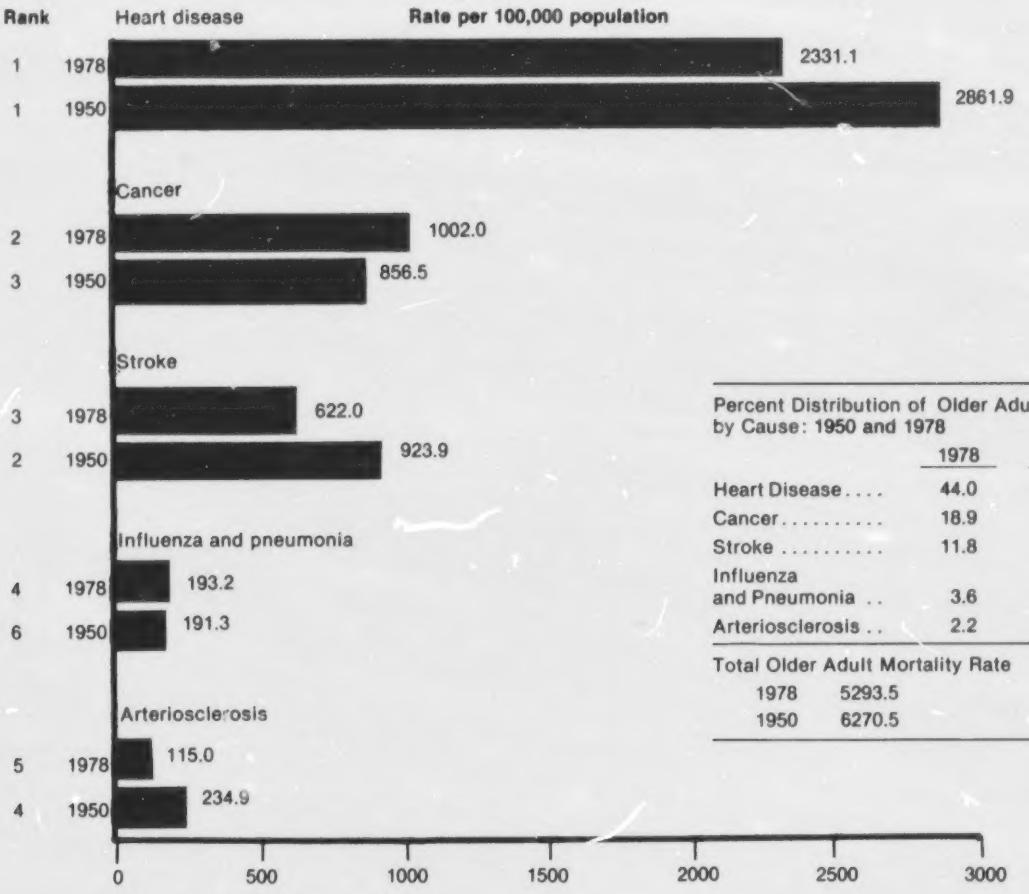
Healthier Older Adults

Between 1950 and 1978, there have been substantial shifts in the rankings of the leading causes of death among those aged 65 and over (Figure 21). Although heart disease remains clearly the predominant cause of death, death rates have fallen nearly 20 percent for this condition. Because of the large decrease in stroke death rates and the small, but consistent, increase in death rates for cancers, cancer death rates now lead those for stroke.

Figure 21. Major Causes of Older Adult Deaths: 1950 and 1978

Age group 65 years and over



Percent Distribution of Older Adult Deaths by Cause: 1950 and 1978

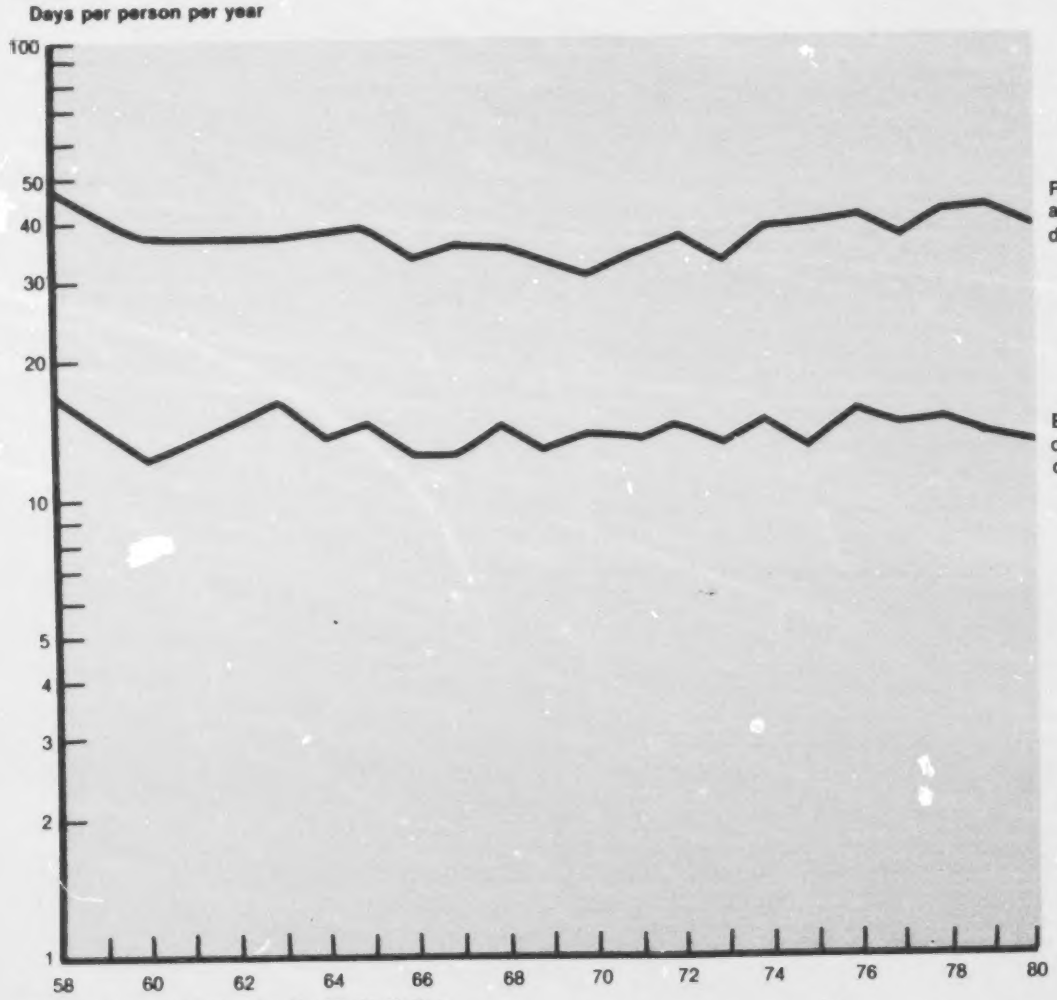
	1978	1950
Heart Disease	44.0	45.6
Cancer	18.9	13.7
Stroke	11.8	14.7
Influenza and Pneumonia	3.6	3.1
Arteriosclerosis	2.2	3.7

Total Older Adult Mortality Rate

1978	5293.5
1950	6270.5

Source: National Center for Health Statistics.

Figure 22. Trends in Restricted Activity Days and Bed Disability Days Among Older Adults: 1960-1980



Source: National Center for Health Statistics

While death rates for older adults remain a priority concern, perhaps the dominant goal relates to improving the quality of life among the elderly. Two indicators of the extent to which health problems inhibit quality of life are the number of days that activity is restricted because of health problems and the number of bed disability days (Figure 22). Restricted activity days, measured through the Health Interview Survey, represent days for which those suveyed reported they were unable to engage in their customary activity. If efforts to enhance the activity level of older adults are successful, the definition of customary activity will change and, paradoxically, the number of restricted activity days may increase. At the same time, the number of bed disability days should respond by declining.

Tracking Prevention Progress

The goals and objectives set forth in *Promoting Health/Preventing Disease: Objectives for the Nation* are quantitative measures of overall progress. This progress will be achieved through reductions in hundreds of health status indicators—many of which are tracked nationally, others of which are not. An important component of health efforts in the coming decade will be improvement of health status surveillance, the cornerstone of effective prevention program management.

Unmanaged stress and its association with mental illness, cardiovascular disease, and violent behavior represent an important new area for monitoring; other indicators, already being monitored, will require larger samples to be of use in planning and evaluating specific interventions. Better measures of morbidity and mortality related to occupational and environmental factors will continue to be important needs. Infectious diseases, particularly incidence data, are also now incompletely reported, resulting in an underestimation of their impact on the health and productivity of individual geographic areas and of the Nation as a whole. Improved measures are also needed to assess individual behavior. As new data are gathered and new trends become apparent, they will be included in subsequent editions of this report.

Chapter 3

Agency Innovations

Our National health promotion and disease prevention goals and objectives will be achieved only through the combined efforts of individuals, organizations, and government at every level of our society. The Federal Government is an important contributor to this process. A diverse group of Federal programs in health, education, social services, nutrition, recreation, transportation safety, and environmental protection provide opportunities for promoting health and preventing disease. Within the Department of Health and Human Services (DHHS), every agency contains programs with major prevention components—activities that span a broad range encompassing the direct delivery of services, establishment and enforcement of safety standards, sponsorship of information efforts, building the capacity of other sectors, and basic and applied research. This chapter reviews the prevention roles of the DHHS agencies and provides highlights of some of the prominent recent agency accomplishments in prevention.

Department of Health and Human Services

Public Health Service

Office of the Assistant Secretary for Health (OASH)

The Assistant Secretary for Health is responsible for national programs and policies related to health services delivery, disease prevention and health promotion, and biomedical research.

OASH Prevention Highlights

Implementation of the National Prevention Objectives. In *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention*, a number of broad national goals were established for the improvement of the health of the citizens of this country by 1990. To further the attainment of these national goals, the report noted the major health problems facing each of five major age groups and identified 15 priority areas in which, with appropriate action, further gains could be expected. In 1980, a follow-up report, *Promoting Health/Preventing Disease: Objectives for the Nation*, was issued by the Public Health Service. This report was developed through a cooperative effort of a large number of representatives from the public and private sectors. It established 226 measurable prevention objectives for the 15 priority areas, including specific objectives in each area for: improvement of health status; reduction of risk factors; increased public and professional awareness; improved services and protection; and improved surveillance and evaluation systems. These prevention objectives were designed to be national guideposts rather than Federal obligations. They are intended to serve as a measure of the effectiveness of disease prevention and health promotion activities. Since the release of *Objectives for the Nation*, the Office of Disease Prevention and Health Promotion (ODPHP), in the Office of the Assistant Secretary for Health, has overseen a process to develop Implementation Plans for the Federal contribution to the attainment of the national prevention goals. Various Public Health Service agencies were assigned lead responsibility for coordinating the development of the implementation plans for each of the 15 priority prevention areas. The final drafts were completed in the Spring of 1982 and a system has been established for monitoring progress toward achieving the objectives. It is important to note that these national objectives cannot be achieved through Federal efforts alone. Their achievement depends on the collective efforts of Federal officials, State and local leaders, health and education professionals and a broad range of community and business groups throughout the country. The implementation of disease prevention and health promotion strategies to achieve these national objectives is the challenge for the decade ahead.

Prevention and Medical Practice: The Role of Undergraduate Medical Education. A national symposium was held on October 5th and 6th, 1981, at the National Library of Medicine, National Institutes of Health, to consider the pre-doctoral education needed to prepare physicians for leadership and participation in disease prevention and health promotion efforts. Co-sponsoring the symposium with ODPHP were the Division of Medicine of the former Health Resources Administration and a number of medical education and specialty organizations, including the American College of Preventive Medicine, the American Medical Association, the Association of American Medical Colleges, the Association of Teachers of Preventive Medicine and the Council of Medical Specialty Societies. Approximately 80 persons attended the invitational two-day meeting, representing members of the major specialty organi-

zations and the medical education community. The agenda for the symposium included presentations at plenary sessions by the Secretary, the Assistant Secretary for Health, and prominent medical educators. A significant portion of the symposium was devoted to work group discussion of physician roles in health promotion and disease prevention and their implications for medical education. Proceedings of the Symposium, including recommendations of the work groups, appeared in the May-June 1982 issue of *Public Health Reports*.

National Health Promotion Training Network. A new and unusual form of Federal assistance—the cooperative agreement[1]—was used in 1981 to enlist four of the Nation's leading non-profit organizations in the development of a National Health Promotion Training Network. The American National Red Cross, the National Board of YMCAs, the National Coalition of Hispanic Mental Health and Human Services Organizations, and the National Urban League were awarded a total of $175,000 by the Office of Health Information, Health Promotion, Physical Fitness and Sports Medicine (OHP) of OASH. The four agencies will be working together to establish systematic methods for providing training for their staffs in conducting sound health promotion programs. In the first year of training network activity, member agencies will survey their affiliates to identify existing health promotion programs. Later, these programs will be reviewed and modified if necessary. Eventually, methods for teaching the skills necessary to adopt healthier habits of living—especially to high risk populations such as minority groups and the elderly—will be established and shared in the form of training "packages." By working cooperatively, the prospects are greatly enhanced for the development of mutually supporting programs and messages—a factor that should facilitate behavior change on a community-wide basis.

"Healthy Mothers, Healthy Babies" Public Information Program. The Public Health Service has initiated a cooperative effort to provide information promoting healthy behavior to pregnant women and women planning pregnancy. This program is seen as one means of achieving the Department of Health and Human Services' national objective of no more than nine infant deaths for each 1,000 live births by 1990. Called the "Healthy Mothers, Healthy Babies" campaign, it is being carried out by a coalition of government, professional and voluntary organizations. Participants in the coalition, besides the U.S. Public Health Service, include approximately 40 agencies such as the March of Dimes Birth Defects Foundation, the American Academy of Pediatrics, the American Nurses Association, the American College of Obstetricians and Gynecologists, the Parent Teachers Association, and the U.S. Department of Agriculture. Posters, information cards, and radio public service announcements have been designed to reach low income pregnant women with information on nutrition, smoking, alcohol use, the need to continue seeing a physician during the course of pregnancy, and other similar topics. Moreover, the organizations working together in the coalition have initiated other activities, including: development of a "Healthy Mothers, Healthy Babies" newsletter, to exchange news and information among interested groups; and development of a directory of educational materials on prenatal and infant care.

National Toxicology Program (NTP). Established in FY 1979, the NTP addresses the prevention of environmental health hazards through strengthening the science in toxicology and encouraging coordination between scientific institutes and regulatory agencies. DHHS is working through the NTP to strengthen efforts to test chemicals of public health concern and to develop and validate new and better integrated testing methods. Membership in this interagency program's major governing body, the Executive Committee, includes the Food and Drug Administration, the National Institute for Occupational Safety and Health in the Centers for Disease Control, the National Cancer Institute and the National Institute of Environmental Health Sciences in the National Institutes of Health, the Office of the Assistant Secretary for Health, the Occupational Safety and Health Administration in the Department of Labor, the Consumer Product Safety Commission, and the Environmental Protection Agency. Through this program, DHHS plans to increase its emphasis on test methods development and validation, as well as on broadening testing protocol to ensure that the full toxicologic potential of a given compound is determined. Agencies outside DHHS provide advice on which compounds should be tested. The June 1981 report of the Office of Technology Assessment, United States Congress, entitled "Assessment of Technologies for Determining Cancer Risks from the Environment" praised the NTP on its promising start, its attention to immediate testing needs through the cancer bioassay program,

[1] Cooperative agreements differ from grants or contracts in that substantial involvement by the Federal Government is necessary. In this case, the Office of Health Information, Health Promotion and Physical Fitness and Sports Medicine will provide technical assistance and liaison with other Federal agencies, as well as providing the theoretical framework for Training Network activities.

and the possibility of future payoffs from new test development.

Office of Disease Prevention and Health Promotion

The Office of Disease Prevention and Health Promotion (ODPHP) was established to coordinate policy and program development in prevention. Examples of its activities include operation of the Departmental Working Group on Health Risk Assessment, the Prevention Coordinating Group and the Departmental Task Force on Clearinghouse Mangement. The ODPHP is responsible for coordinating the development of the implementation plans for the Federal contribution to the 1990 Objectives for the Nation outlined in *Promoting Health/Preventing Disease: Objectives for the Nation*. The ODPHP also supports and encourages the activities of a broad range of private groups whose participation is essential to successful national efforts to enhance the health of Americans. Through its Office of Health Information, Health Promotion and Physical Fitness and Sports Medicine, the ODPHP sponsors innovative programs related to health promotion.

Office of Health Information, Health Promotion and Physical Fitness and Sports Medicine (OHP)

The Office of Health Information, Health Promotion and Physical Fitness and Sports Medicine was created in 1976 to develop and coordinate programs related to these health areas. Working with government agencies and private organizations, OHP attempts to stimulate health promotion efforts in schools and communities, at worksites, at medical treatment facilities, and through the use of the media. Through OHP a National Health Information Clearinghouse has been established to facilitate access of consumers and health professionals to a wide range of health information resources.

OHP Prevention Highlights

Guidelines for Health Promotion Programs at the Worksite. During 1981 representatives from industry, labor unions, medicine, nursing and academia developed a set of guidelines for implementing health promotion programs at the worksetting. OHP staff and persons from the National Center for Health Education provided technical assistance to the project. The guidelines, along with a series of background papers on the "state-of-the-art" in worksite health promotion and several brief descriptions of operating worksite programs, have been published as a book, *Managing Health Promotion in the Workplace*, released in the spring of 1982.

Community Technical Assistance Projects. Communities throughout the country are already developing, implementing or expanding innovative programs to help people reduce risks to their health through changes in personal habits. In 1981, the OHP completed a program of technical assistance to 17 communities representing a cross-section of the country. The OHP worked closely with five local community organizations to develop a series of case studies which highlight the challenges and document the knowledge gained through this project. A guidebook is being prepared for use by other communities interested in initiating similar health promotion projects.

HealthStyle Campaign. In 1981, the OHP carried out a nationwide campaign to educate the general public about ways individuals can improve their chances of good health. A self-scoring quiz called "HealthStyle" was used to help people assess which of six areas—smoking, nutrition, exercise, stress management, alcohol and drug use, and safety—held the most risk for their personal health. Television, radio, and print public service announcements, distributed nationwide, advertised the booklet in both English and Spanish. In nine test cities across the country, an intensified campaign was sponsored. There, local coalitions of interested agencies not only distributed the media materials and HealthStyle quiz, but also set up community information networks to refer individuals to local sources for further help. An evaluation is being conducted to assess the degree to which this local sponsorship strengthened the effects of the campaign.

National Conference for Institutions Preparing Health Educators. OHP, with the Centers for Disease Control, the former Health Resources Administration, the Department of Education, the National Center for Health Education and major national professional health education organizations and honorary societies sponsored a national conference on credentialing and standard setting issues for health education specialists. The group, which included faculty members from nearly 100 colleges and universities, also identified the responsibilities of health educators in implementing the *Objectives for the Nation*.

Special Population Groups. In 1980, OHP sponsored a series of workshops to develop a mechanism for involving special population groups in the development of national health promotion policy. A summary report of the proceedings and recommendations of these workshops has been published and distributed to key Federal, State and local public officials and private sector organizations. As a first step in implementing these recommendations, OHP, in collaboration with the Indian Health Service, met with American Indian tribes and urban Indian groups to assist them with the integration of health promotion into ongoing tribal health programs. OHP identified a broad resource base, including private sector organizations and voluntary groups, that could provide both financial support and management expertise to Indian groups for the development of health promotion programs.

Services to Medically Underserved Populations. OHP and the Bureau of Community Health Services (BCHS) of the former Health Services Administration signed an agreement to assure the provision of disease prevention and health promotion services to medically underserved populations. The OHP provided technical assistance in the development of health promotion guidelines for BCHS programs. BCHS applied their experience in providing health care to medically underserved populations to the development of culturally sensitive health promotion programs and materials.

The National Health Information Clearinghouse. The National Health Information Clearinghouse (NHIC), established by OHP in 1979, is a central source of information and referral for inquiries from the general public related to health issues. Through its data base, containing more than two thousand entries, the NHIC provides the general public and health professionals with ready access to a wide range of health information materials, services, programs and organizations. The Clearinghouse responds to over 1,000 inquiries a month on health-related subjects ranging from alcohol abuse to mental retardation to prenatal care. The NHIC also produces and distributes publications on timely health topics. Among its issuances are a directory of Federal health information resources, an inventory of health risk appraisals, a guide to physical fitness organizations and resources and a poster listing telephone numbers and brief descriptions of important health resources. A toll-free telephone line is maintained to expedite inquiries to the Clearinghouse.

Guidelines for Planning Health Education Programs in Health Maintenance Organizations. In cooperation with the Office of Health Maintenance Organizations, OASH, and the Center for Health Promotion and Education at the Centers for Disease Control, the OHP has prepared a handbook to help HMOs develop health education and health promotion programs. This handbook was reviewed by administrators, medical directors, and health education specialists from HMOs throughout the country as well as the Group Health Association of America and the American Association of Foundations for Medical Care. The handbook was published and distributed in the spring of 1982.

Nutrition Coordinating Office (NCO)

The Nutrition Coordinating Office (NCO) was established in the fall of 1978 to coordinate departmental policy in all aspects of nutrition and to serve as the nutrition liaison office to other government agencies and outside organizations. In addition to providing staff support for the development of documents such as the *Dietary Guidelines for Americans*, the Nutrition Coordinating Office staffs the DHHS Nutrition Coordinating Committee (NCC) and Nutrition Policy Board (NPB). The Department's Nutrition Coordinating Committee (NCC) represents some two dozen offices and agencies. It is responsible for enhancing communication between and among agencies on the Department's many activities in nutrition, and for working with food industry, professional and voluntary nutrition societies on nutrition policy issues of mutual interest. Standing subcommittees have been formed to facilitate collaboration in six areas: nutrition education, nutrition research and training, nutrition services, nutrition status monitoring, food safety and quality, and international nutrition. Primary leadership and direction for nutrition policy recommendations within the Department are the responsibility of the Nutrition Policy Board (NPB). Chaired by Deputy Assistant Secretary for Health (Disease Prevention and Health Promotion), the NPB is composed of the senior officials who chair the six standing nutrition subcommittees and other departmental nutrition policy advisors.

NCO Prevention Highlights

Nutrition Symposium. In observance of National Nutrition Month, the Department sponsors a symposium for the public. The March 1981 symposium featured a panel of departmental scientists addressing the issues of obesity, heart disease, and the essentiality and safety of nutrients. The 1982 symposium featured presentations by represent-

atives of the food industry on private sector initiatives and programs designed to provide nutrition education to the general public.

National Nutrition Monitoring System. In October 1981, the Departments of Health and Human Services and Agriculture submitted to Congress a Joint Implementation Plan for a Comprehensive National Nutrition Monitoring System. The two primary objectives of the plan are to achieve the best possible coordination of the Department's National Health and Nutrition Examination Survey (NHANES) and the U.S. Department of Agriculture's (USDA) Nationwide Food Consumption Survey, and to develop a meaningful reporting system for the government's efforts to monitor the nutritional status of the American people.

Office of Management

The President's Council on Physical Fitness and Sports (PCPFS)

The PCPFS was established in 1956 as the President's Council on Youth Fitness, and its responsibilities were expanded to include the adult population in 1963. The Council works with State and local governments, schools and colleges, professional associations, sports organizations, and the private sector to promote participation in exercise and sports. Specific programs include technical assistance to various organizations, public service campaigns, sports medicine symposiums, regional leadership training workshops, awards to youth for outstanding physical achievement, and publication of research information. The PCPFS plans and implements programs to carry out its directives to promote daily physical education programs in the schools; establishing Governors' Councils on Physical Fitness and Sports; urging employers to establish employee fitness programs; and encouraging all Federal departments and agencies to support physical fitness programs for their personnel. The PCPFS collaborated with the ODPHP in the development of the 1990 Physical Fitness and Exercise Objectives for the Nation.

PCPFS Prevention Highlights

White House Symposium on Physical Fitness and Sports Medicine. The second annual White House Symposium on Physical Fitness and Sports Medicine was held November 22–23, 1981. It was cosponsored by the PCPFS, the American Medical Association, the American College of Sports Medicine, the Amercian Orthopedic Society, the ODPHP and other DHHS agencies. Physicians, coaches, health professionals, and other experts in physical education and sports presented information about preventive techniques and proper equipment. More than 500 people attended the two-day symposium.

Youth Fitness Forums. These forums were held from October 1981 to January 1982 in 22 urban cities to promote increased participation by young people in programs of vigorous activities. Clinic sessions for leadership instruction of professionals in recreation and physical education were held in addition to a luncheon conference with municipal leaders in each city. Approximately 10,000 professionals, volunteer leaders, and community leaders attended these one-day meetings. Current practices in sports techniques and exercise training were demonstrated through audience participation and lectures. The need for regular appropriate exercise as a lifestyle pattern for young people was emphasized.

The National Conference on Fitness and Aging. The first National Conference on Fitness and Aging was held September 1981 in Washington, D.C. Co-sponsored by the PCPFS and General Foods Corporation, in cooperation with 32 national agencies and organizations working with and concerned about the elderly, the two-day conference kicked off a major campaign to promote healthy, active lifestyles among the Nation's fastest growing population group—the 45 million men and women over the age of 55. The 600 professionals and laypersons attending the conference heard research findings on the positive effects of appropriate regular exercise on longevity. They also attended demonstrations by authorities on exercise, nutrition, recreation, rehabilitation, and sports medicine. The conference underscored the importance of encouraging Americans to reassess their habits and to add exercise, recreation and good nutrition to their daily lives in order to make the later years more fully independent and enjoyable.

Office on Smoking and Health (OSH)

The long-range goal of the Office on Smoking and Health (OSH) is to reduce deaths, disabilities, and health care costs associated with cigarette smoking. To accomplish this goal, the OSH sponsors programs designed to: provide information on the prevalence of smoking and associated attitudinal, epidemiologic and economic factors; reduce the number of women who smoke while pregnant, taking oral contraceptives, or are at increased risk

of disease because of other factors; reduce the number of children and adolescents who smoke; reduce smoking among persons exposed to occupational health hazards, including asbestos; and reduce smoking in racial and ethnic minorities.

OSH Prevention Highlights

Technical Information Center. The Technical Information Center of the Office on Smoking and Health is a unique resource which serves the national and world-wide scientific community. In 1981 it expanded its title collection to more than 30,000 titles reflecting the Office's expanded coverage of biomedical, behavioral and other related areas. The Technical Information Center possesses the computer and microfilm technologies to provide special searches, references, abstracts, and (under certain circumstances) hard copies to researchers on request. It publishes a continuing series of bulletins, an annual cumulative index of titles, and a biennial Directory of Ongoing Research. The data base maintained by the Technical Information Center is the only such automated file on the subject of smoking, tobacco, and tobacco use existing in the world. It supports the Department's annual review of the health consequences of smoking and also provides the basis for the direction of the public information campaign. In addition, this unique data file is used to respond to scientific and technical inquiries from the professional research community.

The 1982 Annual Report to Congress on the Health Consequences of Smoking. The 1982 Surgeon General's report *The Health Consequences of Smoking—Cancer* presents a comprehensive evaluation of the relationship between cigarette smoking and cancer. Since 1937, cancer has been the second most important cause of death in the United States and will account for an estimated 430,000 deaths this year. Surveys have shown that Americans fear dying of cancer more than any other disease. We have yet to observe, however, a decline in the cancer mortality as is currently occurring for other chronic diseases, such as the 30 percent decline in the cardiovascular disease rate and the 50 percent decline in cerebrovascular disease rate observed over the last three decades. The mortality rate for cancer has changed little over two decades and that change has been a small, but measurable, increase. This increase in mortality has occurred in the face of remarkable improvements in survival rates for some cancer sites through earlier or better diagnosis and treatment. Unfortunately, these advances have failed to counter the remarkable increases in mortality from smoking-related cancers, many of which have a poor prognosis for long-term survival or cures.

International Activities. The Office on Smoking and Health, in cooperation with the World Health Organization, initiated a project to collect international smoking prevalence and related data. Completion of this project will enable the collection, storage, analysis and dissemination of international data on smoking and health.

National Poster and Essay Contest. Since 1979, the Office on Smoking and Health has conducted national poster and essay contests to foster an awareness of the health hazards of smoking among youth. Last year over 40,000 of the Nation's seventh graders participated in the contest. Winning posters and essays were exhibited in the Hubert H. Humphrey Building in Washington, D.C. Selections from previous contests have been featured in a nationally distributed brochure and displayed in a series of exhibits throughout the Nation. The OSH is working with the States to develop similar programs at the State and local level.

National Media Campaign. To impress upon children, teenagers, women and pregnant women the hazards of smoking and its impact on health, OSH initiated a national media campaign in August 1979. To achieve its aim, this campaign employs public service announcements on TV and radio; programs for radio; advertisements in journals, magazines, and school and college newspapers; public transit and point-of-sale displays; and pamphlets. Recently, the OSH has begun a private sector initiative with the health departments and voluntary health organizations in the major metropolitan areas in the country. The major focus of the initiative is to institute individual smoking and health media programs in those metropolitan areas. Arrangements are being worked out so that DHHS materials will be shown (or in the case of radio, played) in these markets with local identification. This project, at very moderate expense to the government, will: focus the attention of local health departments on the smoking problem while building up local identity for the departments; provide local programs with quality materials at no expense to them; and increase exposure of the public service announcements.

Prevention and Intervention. In conjunction with the Centers for Disease Control, OSH assisted with the implementation of a $10 million grant program for smoking and alcohol intervention demonstration projects, provided technical assistance to numerous State and local health departments and voluntary health organizations. The Office prepared and disseminated three radio antismoking spots that allowed the 130 Health Ed-

ucation-Risk Reduction grantees to attach customized identification trailers. In conjunction with the National Interagency Council on Smoking and Health, a consortium of 34 agencies, among which are the American Cancer Society, American Heart Association and the American Lung Association, compiled an inventory of smoking intervention, cessation and prevention programs.

Office of Adolescent Pregnancy Programs (OAPP)

Every year, approximately one million teenagers become pregnant. OAPP was created in 1978, with bipartisan Congressional support, to help establish networks of community-based services for adolescents—those already pregnant or parents as well as those who wish to avoid pregnancy. In July 1981, Congress approved the Adolescent Family Life Bill, which replaces the earlier legislation. The major features of this new program are: family involvement to help reduce teenage pregnancy and deal with the strains of adolescent parenting; care services for pregnant adolescents and adolescent parents with emphasis on adoption as a positive alternative for adolescents who do not choose to raise their child; prevention services relating to problems associated with adolescent premarital sexual relations; research concerning causes and consequences of adolescent premarital sexual relations, contraceptive use, pregnancy, and child rearing; evaluation of the relative effectiveness and efficiency of different means of service delivery; and dissemination of results from programs and research projects relating to adolescent premarital sexual relations, pregnancy, and parenthood. In FY 1982, the program expended nearly $10 million to fund research and demonstration projects in these areas.

Office of Health Research, Statistics, and Technology (OHRST)

The Office of Health Research, Statistics, and Technology (OHRST) serves as the principal advisor to the Assistant Secretary for Heath in the areas of health services research, health statistics, and health technology assessment. In carrying out its mission, OHRST provides administrative support, programmatic oversight and coordination of the activities of the National Center for Health Services Research (NCHSR), and the National Center for Health Statistics (NCHS). In addition to specific activities that relate to primary prevention objectives, many other activities within the National Centers serve to broaden and enhance our understanding of and ability to assess the prevention efforts of the Department. Included are the baseline and targeted statistical activities of NCHS such as the Health and Nutrition Examination Survey and the Health Interview Survey.

National Center for Health Services Research (NCHSR)

The National Center for Health Services Research (NCHSR) undertakes and supports research, demonstrations, and evaluations on problems in the organization, delivery, and financing of health care services. It also serves as the focal point for dissemination of health services research findings to public and private sector decisionmakers. NCHSR priority areas for investigations are: technology assessment; health promotion and disease prevention; State and local problems in delivering health services; health information systems; and the role of market forces in delivering health care services.

NCHSR Prevention Highlights

NCHSR Grants for Research on Health Promotion and Disease Prevention. NCHSR-supported disease prevention and health promotion research emphasizes public policy issues and provider delivery alternatives. The results are intended to assist public policymakers, as well as individual providers, in their choice of treatment, program design and coverage. To accomplish this, NCHSR disseminates information through published papers, reports, books, and conferences, as well as syntheses of major research findings. To date, the NCHSR has supported five grants submitted in response to the solicitation for research applications on Health Promotion and Disease Prevention published in August 1980. In addition, the NCHSR has worked closely with other Federal agencies to coordinate research evaluating the process, cost and effectiveness of existing health hazard/risk appraisal programs. This research provides a state-of-the-art description, assessment and analysis of health hazard/health risk appraisal programs. Potential benefits and adverse effects are identified.

Public Policy Research. Several current and recently completed studies review the benefits and costs to society of specific health promotion and disease prevention activities. For example, a book entitled "Cholesterol, Children, and Heart Disease: An Analysis of Alternatives," was jointly

funded by NCHSR and the Robert Wood Johnson Foundation. It uses cost-effectiveness analysis to evaluate three alternative strategies for reducing society's coronary heart disease mortality rate by lowering serum cholesterol levels in children through dietary intervention. Another study estimates the direct cost of medical services needed to treat complications and conditions associated with broad-scale public vaccination programs and the indirect costs associated with the loss of work, restriction of activities and premature death. These findings will be helpful in developing any future publicly sponsored vaccination programs. A current project examines ethical and legal issues of government intervention in health promotion/disease prevention. This project examines the complex social, ethical, political, legal, and economic issues that are involved in any public policy aimed at changing health related behavior.

Provider/Treatment Related Research. NCHSR has supported a number of studies which assess the effectiveness of a variety of delivery and treatment programs. These include research on: the effectiveness of alternative methods of improving compliance in health promotion and disease prevention activities with patients in prepaid group practice and health maintenance organizations; the long-term effects of special packaging of antihypertensive medication on compliance with blood pressure control in a largely middle-aged, low socioeconomic Black clinic population; the effects of stressful events and social support networks on illness and health services use; and the determinants of children's health with particular reference to family and local environmental variables.

National Center for Health Statistics (NCHS)

NCHS is the principal Federal source of health data used in planning health services and other programs that meet the health needs of the Nation. Working with State and local governments, the Center collects and analyzes the vital statistics of the Nation and conducts national surveys of illness and disability and the use and availability of health services, resources, and manpower. The Center also conducts research on the development and evaluation of data collection systems.

NCHS Prevention Highlights

National Survey of Personal Health Practices and Consequences. In 1979, NCHS and the Office of Health Information, Health Promotion and Physical Fitness and Sports Medicine initiated a two-phase national survey to determine the distribution and stability of health practices. Approximately 3,000 telephone interviews representing a national sample of persons from 20 to 64 years of age were conducted during spring and summer of 1979. Respondents were interviewed again in 1980 with virtually the same questionnaire. The results will yield information on the distribution and range of health habits, the relationships between health habits and health status, and the corresponding changes over time. Several reports were issued in 1981 showing data from the first round of interviews.

National Natality Survey and National Fetal Mortality Survey (1980). Information was obtained from mothers, physicians, hospitals and other medical sources associated with a sample of 10,000 live births and 7,000 fetal deaths occurring in 1980. This followback survey collected data from the mother on certain prenatal health practices such as smoking and drinking, a complete pregnancy history and occupational data on the mother and the father. Data from this survey will be used by analysts to assess risk factors and indicators related to poor pregnancy outcome.

NHANES-I Epidemiologic Followup Survey. A followup study of the 14,407 subjects examined as part of the National Health and Nutrition Examination Survey-I (1971–75) will provide a unique opportunity to investigate how risk factors measured in the earlier study relate to subsequent morbidity and mortality. An effort will be made to trace and obtain data on all subjects. The survey is funded by the National Institute on Aging with additional support from other NIH Institutes and other agencies. Initial data from the study are expected in 1984.

The National Longitudinal Health Survey on Smoking Practices (1980–81). The major purposes of the survey are: to track changes in smoking behavior over time, particularly changes in brand smoked or tar and nicotine levels, total consumption and attempts to stop smoking cigarettes; to enable evaluation of the respondent's ability to recall smoking behavior over time; and to carry out methodological inquiries to evaluate current smoking behavior questions, and compare different interview modes. Respondents were interviewed over the telephone on two separate occasions, at six month intervals.

Office of Health Maintenance Organizations (OHMO)*

The Office of Health Maintenance Organizations (OHMO) is responsible for several programmatic functions. It provides funding for fledgling HMOs, promotes private sector investment in HMOs, awards Federal qualification to HMOs meeting the requirements of the HMO Act, and monitors HMO compliance with these requirements. With regard to prevention activities, OHMO offers technical assistance and expertise to HMOs seeking improved methodologies for fulfilling their responsibilities to provide health education, nutrition education and counseling, and disease prevention services as mandated by Title XIII of the PHS Service Act, as amended. While the 1981 HMO Amendments eliminated the mandate for health education, OHMO nonetheless requires all HMOs to provide evidence about what each HMO member can contribute to maintaining his or her own health and, specifically, how and what preventive services are offered.

OHMO Prevention Highlights

Coordination with Constituent Associations. The OHMO provides consultation services to the Group Health Association of America and the American Association of Foundations for Medical Care on health promotion activities, program development and identification of industry-wide issues.

Prevention Program Demonstrations. As a joint venture with the Office of Health Information, Health Promotion and Physical Fitness and Sports Medicine, OHMO is co-sponsoring two demonstration projects to evaluate the effectiveness of health promotion services delivered in a clinical setting. One of these projects assesses the potential for reducing infant mortality by providing HMO-based prenatal nutrition counseling for high-risk pregnancies, and the other focuses on HMO-based counseling on the use of infant auto restraints.

Office of International Health (OIH)

The Office of International Health (OIH) provides leadership, formulates overall policy, and assures coordination of the Department's international health activities. In this regard, the Office is the official liaison agency of the U.S. Government in relationships with international health organizations, notably the World Health Organization (WHO) and Pan American Health Organization (PAHO). OIH facilitates and coordinates the participation by the PHS agencies in binational relationships with more than 20 countries. Many of these relationships involve prevention and prevention-related activities. International cooperation on prevention-related research presents myriad opportunities for furthering knowledge about the origins and prevention of disease. For example, cross-national studies of the incidence of cancer, hypertension, and lung disease provide important insights into the causative factors of these problems and how they might be prevented.

OIH Prevention Highlights

WHO "Health for All by the Year 2000" Strategy Development. Efforts begun in 1980 to formulate a U.S. strategy and plan of action for implementing domestic activities to reach the WHO goal of "Health for All by the Year 2000," continued in 1981, the principal task being to incorporate the Administration's proposed changes in U.S. health policy. Disease prevention and health promotion remain major tenets of the U.S. strategy. The primary aim of this WHO strategy is "the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life."

U.S.-Egypt Health Cooperation. In June 1981, the United States and the Egyptian Ministry of Health reached agreement to expand their joint activities in diarrheal disease research and nutrition intervention. The objectives of cooperation in the diarrheal disease area are to determine the most efficacious, practical and cost effective means for the interruption of infection and disease transmission and to evaluate preventive tools. The nutrition activities will focus on the interaction between diet and infant growth patterns, particularly during the weaning period.

U.S.-People's Republic of China Health Cooperation. Activities are now under way for several prevention related activities under the protocal signed in 1979 between the U.S. and the People's Republic of China. This work includes, among other activities, cooperation on new approaches to research on the epidemiology and control of influenza and exchange of information on the appearance of new strains of influenza virus. Research studies will also be conducted in the areas of can-

*On September 1, 1982 the Office of Health Maintenance Organizations (OHMO) became part of the new Health Resources and Services Administration. The programs and activities described in this section reflect the operation of the OHMO as a separate entity during 1981 and the first eight months of 1982.

cer and cardiovascular disease. These studies will look at whether there is a correlation between diet, nutrition, health habits, and other environmental factors and the incidence of these diseases and conditions. This has considerable potential impact on our understanding of the processes underlying these major health concerns of both the U.S. and China. In the area of Health Services Research, a pilot project was undertaken in Shanghai County in which a descriptive analysis of the primary health care system was conducted by a joint team and reviewed in a workshop held in Shanghai in July 1981. This is an important step in our understanding different approaches to primary health care. This project demonstrates how strides can be made in a relatively short span of time to control infectious and parasitic diseases, drastically reduce infant mortality rates, and conduct effective programs for planned parenthood.

Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA)

The Alcohol, Drug Abuse, and Mental Health Administration is the Federal agency specifically mandated to prevent and reduce alcohol abuse and alcoholism, drug abuse, and mental and emotional illness. ADAMHA conducts and supports research into the causes of these diseases and disorders and develops new approaches for prevention and treatment. With passage of the Budget Reconciliation Act of 1981 (P.L. 97-35), most of the resources used for prevention services, program development, and capacity building were incorporated into the Alcohol, Drug Abuse, and Mental Health Services Block Grant. States must use at least 20 percent of the alcohol and drug abuse block grant funds for prevention and early intervention. Consultation and education will continue to be an essential service of community mental health centers funded with block grant funds. ADAMHA will continue to give priority to prevention, both in prevention research and in its overall national leadership role.

ADAMHA Prevention Highlights

Publication of ADAMHA Prevention Policy and Programs. In June 1981, the agency published *ADAMHA Prevention Policy and Programs 1979–1982*. This publication was the outgrowth of a policy development process conducted by the agency, which began with the National Prevention Conference in September 1979, and involved medical authorities, State and local program officials, and other prevention-oriented groups. The publication sets forth policy positions on prevention concepts, social change, evaluation, joint programming and funding, and describes Institute programs and plans.

National Conference on Health Promotion/Prevention of Alcohol, Drug Abuse, and Mental Health Problems in Industry. The Alcohol, Drug Abuse, and Mental Health Administration sponsored a Conference on Health Promotion and the Prevention of Alcohol, Drug Abuse, and Mental Health Problems at the Worksite on June 16–17, 1981 in Washington, D.C. The purpose of the conference was to assess the extent to which alcohol, drug abuse and mental health activities have been adapted to the worksite and to gain insight into existing programs as a basis for building new ones. More than 200 leaders in health promotion/disease prevention fields attended, representing

labor, management, research and academic communities, and national, State, and local prevention programs.

ADAMHA–CDC Workshop on Adolescent Health Promotion/Prevention Programs in the Schools. A workshop on the role of schools in preventing adolescent health problems was sponsored jointly by the Alcohol, Drug Abuse, and Mental Health Administration and the Centers for Disease Control on October 6–7, 1981. Fourteen consultants from the school administration, health education, health, alcohol, drug abuse, and mental health fields attended the meeting which focused on ways to better integrate alcohol, drug and mental and general health promotion/prevention principles into school management policies, health services, and curricula. Participants also proposed a model for Federal-State-local and intra-State cooperation and planning to achieve more scientifically based and effective prevention efforts in schools, and recommended ways to improve dissemination of information and models to State and local school districts.

Project Sleep: National Program in Insomnia and Sleep Disorders. The National Institute of Mental Health was designated as the lead agency to plan and implement the goals of: improving the diagnosis, treatment, and management of insomnia and sleep disorders by health care professionals; providing information to the public about insomnia and sleep disorders, including the risks and benefits of sleeping pills; and identifying research needs, disseminating new information from research, and working with other Federal and private organizations to support important research areas. In implementing these goals, curricula for medical schools and continuing medical education (CME) courses have been developed. A strategy for implementing these programs has been developed in cooperation with the Upjohn Company. At least 106 medical schools have agreed to use the curriculum and 67 volunteer sleep experts will conduct CME courses. A consumer workshop on diagnosis and treatment of insomnia has been completed. Patient education has been effected through newspaper and magazine articles, radio and television programs, pamphlets, and a clearinghouse for sleep information. During 1982, priorities are being given to CME and medical school education, and achievement of scientific consensus on important sleep-related issues and dissemination of these findings.

National Institute on Alcohol Abuse and Alcoholism (NIAAA)

The long-range goal of the National Institute on Alcohol Abuse and Alcoholism (NIAAA) is prevention of alcoholism through effective programs, including public education about the public health aspects of alcohol use. A short-term goal is the provision of quality treatment and rehabilitation services in communities. NIAAA supports research, training, and education programs designed to identify causes of alcohol problems and methods to prevent or treat alcoholism. The Institute's major facility for collecting and disseminating data is the National Clearinghouse for Alcohol Information (NCALI). In 1981-82, NCALI answered thousands of requests for alcohol information. These requests came from the general public as well as from researchers and clinicians in the alcohol field. In 1982, NCALI sponsored several workshops, bringing together users of NCALI materials and services in order to learn how to serve user needs more effectively. NCALI has also created numerous three to five page state-of-the-art summaries on topics of high interest to clearinghouse users. Written in a non-technical manner with references, these summaries, entitled *In Briefs*, are used by NCALI staff to respond to information requests from various audiences. Topics for the *In Briefs* cover a wide range of issues, such as: "Physiological Effects of Alcohol," "Alcohol and the Military," "Alcohol and the Family," and "Alcohol and the Elderly."

NIAAA Prevention Highlights

Secretarial Initiative. In October of 1982, the Secretary of the Department of Health and Human Services launched a major initiative to combat alcohol problems of teenagers. The initiative includes model dissemination programs, joint initiatives with the private sector, and interagency cooperative efforts. During 1982, the Department will convene 10 regional conferences to help teachers, school principals and administrators, PTA representatives, school board members and others in local communities around the Nation start alcohol and drug abuse prevention and education programs. These meetings will spread information about five model education programs which have been found promising in a five year evaluation by NIAAA. DHHS will sponsor a series of regional meetings in the summer of 1983 with the goal of training program administrators in assessing the need for and designing comprehensive treatment services for youth. Private industry will be encouraged to endorse and support these prevention and treatment programs in their communities. Secretary Schweiker will also call a Secretarial Conference in Washington in the spring of 1983

to draw national attention to the work of a growing youth movement called Students Against Driving Drunk (SADD). Secretary Schweiker will ask other cabinet officers to join in the effort. As part of the initiative, the various components of DHHS will collaborate in research, education, prevention and treatment activities which have any bearing on teenage alcohol abuse.

NIAAA Public Education Campaign. NIAAA is conducting a mass media program aimed at educating the public about alcohol problems among women and youth. The campaign has developed television, radio, and print materials on fetal alcohol syndrome, alcohol problems among women, and alcohol problems among youth, including drinking and driving. The NIAAA Public Education Campaign materials were disseminated through a multi-level strategy. First, radio and television public service announcements were delivered to broadcast outlets at national, State and local levels. Second, print materials were disseminated through a variety of outlets including voluntary groups and organizations serving women and youth. Third, national, State and local organizations and State Alcoholism Authorities were involved in the development of program activities in support of the campaign. This integrated strategy has made it possible to supplement information provided to target audiences through the mass media with personal involvement in campaign-related projects at the local level. The campaign was launched nationally in January 1982. A comprehensive evaluation of the campaign is planned. The evaluation includes an analysis of the campaign's effectiveness in gaining air time for alcohol messages and assessment of the various dissemination activities used. Evaluation to date indicates the campaign is effectively reaching the target audiences.

Prevention Policy Research. Through its Research/Demonstration Grant Program, NIAAA supported a number of research projects aimed at increasing our understanding of significant policy issues such as minimum age restrictions, control of alcohol outlets, licensing restrictions, and zoning. One grant is supporting research on the use of computer simulation as a tool for developing alcohol abuse prevention policy at the local level. Two other NIAAA supported studies are looking at the impact of raising the minimum purchase age on drunk driving crash rates among the age group affected. No new community prevention grant awards were made by NIAAA during FY 1982 as these funds were incorporated into the Alcohol, Drug Abuse, and Mental Health Services Block Grant. Alcoholism prevention, however, will remain a high priority in the research program of the Institute. NIAAA will continue to solicit applications for and seek to fund Prevention Research Projects. NIAAA recognizes the need for prevention research that focuses on the development and identification of fundamental intervention techniques that can provide a basis for the subsequent development of prevention service programs.

Dissemination of Prevention Information. NIAAA's Prevention Branch assists interested States and local communities in the development of new effective prevention projects and implementation of already tested prevention models through various technology transfer modes. Information is provided on exemplary intervention strategies including in-school alcohol education curriculum, teacher training, and peer group modeling. The Institute also disseminates information from such projects to the general public, researchers, alcoholism clinicians, and special population groups. Information on the impact of various public health policies, such as minimum purchase age choices, is also relayed to the field.

Prevention Publications. In 1981, NIAAA produced a research monograph on services to children of alcoholics and a manual, entitled *Spectrum*, on prevention programs for women's organizations. In 1982, the Institute published a brochure, *For Women Who Drink*, and other materials as a part of the media campaign. *A Guidebook for Planning Alcohol Prevention Programs for Black Youth* was also produced. *Alcohol and Health Monograph No. 3, Prevention, Intervention and Treatment: Concerns and Models* was also developed.

National Institute on Drug Abuse (NIDA)

The long term policy of the National Institute on Drug Abuse (NIDA) has been to play a knowledge development and technical assistance role in drug abuse prevention and to rely upon the States, local communities and volunteer organizations for service delivery. Since the advent of the block grant program, which shifted the responsibility of the State Prevention Grant Program to the States, NIDA has placed increased emphasis on the development of State capacity through technical assistance efforts which focus on community mobilization and coordination between the public and private sectors, increase in knowledge development through funding research projects, special studies or surveys, development of scientific find-

ings concerning drug use trends, and dissemination of information to the scientific community and the general public. NIDA currently supports drug abuse prevention efforts in four prinicpal areas: prevention research, technical assistance, community resource mobilization, and public information and education.

NIDA Prevention Highlights

Prevention Research. For the past five years, NIDA has placed high priority on the careful evaluation of a number of drug abuse prevention strategies targeted at teenagers. Research has been directed at systematically determining the effects of specific strategies to prevent, delay, and reduce the onset of drug abuse and related social problem behaviors. These approaches can be subdivided into generic programs (affective education and alternatives) and programs more specifically structured to provide information and directed educational experiences designed to reduce drug usage. Both the generic methods and many drug information programs have shown little effect in deterring drug use. There is, however, growing evidence that "saying no" strategies, developed initially in the smoking prevention field, may successfully prevent the onset of drug use by adolescents. Positive peer pressure techniques focus on the use of peer role models to train youngsters that saying "no" to cigarettes is socially acceptable and the desirable thing to do. Research data suggest that programs structured on the same principles but aimed more consciously at alcohol, marijuana, and other illicit drugs have the potential to prevent adolescents' use of psychoactive substances. NIDA is currently concentrating much of its prevention research program toward developing these approaches further and determining their efficacy and cost effectiveness.

State Drug Abuse Prevention Grant Program (SPG). Virtually every State and territory has received a NIDA grant to carry out prevention activities under the SPG. In each participating State or territory, a prevention coordinator supervises program planning, service delivery and evaluation. State prevention coordinators provide technical assistance, and disseminate prevention materials and techniques to communities, and collaborate in establishing a network through which States can share information and technical assistance. During FY 1981, the SPG program continued to expand prevention programming focused upon parents and families.

Project Pyramid. During the last six years, Project Pyramid has disseminated the state-of-the-art in prevention technology, provided technical assistance to State and local prevention programs, and sponsored training workshops for State agencies.

National Prevention Evaluation Resource Network (NPERN). During 1981, the NPERN, a NIDA assisted consortium of States, continued to develop prevention research techniques and provide training in evaluation to State and local drug and alcohol abuse prevention programs. This innovative effort to assist States in designing effective self-evaluation tools, methodologies and protocols has received wide acclaim from the State prevention community during its three year development and implementation phase. As a result of this project, a state-of-the-art handbook for evaluating drug and alcohol abuse prevention programs has been developed and shared with State and local programs across the country.

The Center for Multicultural Awareness. The Center for Multicultural Awareness (CMA) responds to the need for developing prevention materials and programs tailored to the needs of ethnic minority groups. These groups include Asian/Pacific Islanders, Blacks, Mexican Americans, American Indians, and Puerto Ricans. CMA provides technical assistance to single State agencies and American Indian tribal entities, develops drug abuse prevention materials, provides translation services, conducts workshops in multicultural drug abuse prevention, and advises NIDA on minority issues and drug abuse prevention strategies. The National Clearinghouse for Drug Abuse Information disseminates the materials CMA produces. While funding for many of these prevention programs is now subsumed under the Alcohol, Drug Abuse and Mental Health Services Block Grant, NIDA will continue to assist the States, private industry, and community groups in developing innovative and effective drug abuse prevention programs, particularly among high risk groups.

Parent Action Groups. One of the major developments in drug abuse prevention in recent years has been the rapid growth of parent action groups which seek to reduce youthful drug abuse. The parents groups work to create a climate in which the community as a whole, including the schools, is actively concerned about drug use and establishes broad prevention systems. There are now well over 3,000 organized groups of parents working to promote an environment which children are getting "don't do drugs" messages from parents, schools, the media, and the community at large. NIDA has published a variety of materials for the use of parents groups, has provided technical assistance, and has recently convened a number of

regional conferences and family collaboration workshops designed to support the movement and increase coordination among the States. Workshop agendas were developed by planning teams which included representatives from NIDA, the host Single State Drug Abuse Agency, State Prevention Coordinators within the regions, and local parents groups.

Channel One. NIDA has promoted community resource mobilization throughout the nation via Channel One, in which the public and private sector work together to initiate alternative prevention programs for youth who participate in projects to benefit their local communities. Over 150 projects involving more than 80 private sector business entities are in operation in 46 States and territories.

Scott Newman Award. NIDA is collaborating with the Scott Newman Foundation in the development of the Scott Newman Award for television programmers who broadcast TV shows that convey a strong drug prevention theme. This effort could influence, and it is hoped curtail, the kinds of pro-drug messages that appear sometimes unconsciously or inexplictly in the TV medium.

Marijuana Public Service Announcements. To continue efforts to keep the public, and youth in particular, aware of the health and psychological effects of marijuana, NIDA is producing six marijuana public service announcements (radio and TV) to be released in Spring, 1983. The purpose of the marijuana spots is to stimulate audiences to write to NIDA for information on the health consequences of marijuana.

National Institute of Mental Health (NIMH)

The National Institute of Mental Health (NIMH) conducts and supports research into the causes, prevention, and treatment of mental and emotional disorders. Special areas of research in 1981 were schizophrenia, severe depression, child mental health, mental health aspects of crime and delinquency, minority group mental health, metropolitan problems, mental health of the aging, and psychopharmacology. NIMH trains mental health workers, distributes mental health information, and collects and disseminates relevant statistical data.

NIMH Prevention Highlights

NIMH Prevention Office. In the Fall of 1979, the Office of Prevention was established within the Office of the Director, NIMH. The office serves as the NIMH focal point for activities related to the prevention of mental illness and the promotion of mental health. As such, it coordinates and develops Institute-wide policies for prevention goals, priorities, and programs. The main functions of the office are to stimulate, develop, support, coordinate, and monitor activities related to the prevention of mental illness and the promotion of mental health in the areas of research, training, services, and education and to collaborate with NIMH Divisions in the administration of such activities. In addition, the office initiates collaborative efforts with other Federal, State, regional, and local agencies, voluntary organizations, public and private educational agencies, and organizations representing service providers, scientific groups, and service consumers to facilitate program development.

Prevention Research. In FY 81, NIMH committed $3.936 million for prevention research. A total of 26 research grants, two Interagency Agreements, and one contract were supported with these funds. In addition, prevention monies were used to supplement the ongoing NIMH-sponsored Epidemiological Catchment Area Projects program. Areas of emphasis included the impact of marital disruption on children, the effects of severely disturbed parents on children, high risk factors in depression, minorities, and stress. During 1981, two new program development mechanisms were initiated: research planning workshops and commissioned state-of-the-art research monographs. Research planning workshops were held on the use of the media to reduce stress and anxiety, and the prevention of mental illness in American Indian and Alaska Native communities. Six state-of-the-art research monographs were commissioned on such subjects as primary prevention program evaluation, conflict resolution, prevention of psychological casualties related to community disruption, mobilizing support networks for the prevention of psychopathology, and stressful life event theory and research.

Preventive Intervention Research Centers. In May 1982, NIMH announced a new grant program to support the establishment of Preventive Intervention Research Centers. The objective of the Centers program is to stimulate prevention research aimed at developing effective, well-evaluated early preventive intervention program models which can be adapted to other settings. The first round of applications will be received in November 1982.

Mental Health Systems Act. During FY 1982, NIMH began efforts to implement Section 325 of the Mental Health Systems Act (Section 455 of the Public Health Service Act) which requires that NIMH design national goals and establish national priorities for the prevention of mental illness and the promotion of mental health, encourage and assist local entities and State agencies to achieve these goals and priorities, and develop and coordinate Federal prevention policies and programs to assure increased focus on the prevention of mental illness and the promotion of mental health. Activities conducted include studies focused on prevention and mental health policy, local mental health consultation and education efforts, identification of prevention/promotion programs which have evidenced significant promise, and development of instruments for identifying and assessing prevention content in psychiatry and psychology training.

Research Planning Workshops. NIMH convened eight research planning workshops during 1982, involving over 150 senior research experts. The workshops covered a wide variety of research issues such as: development and evaluation of preventive intervention strategies, psychiatric epidemiology and primary prevention, key issues in the planning and implementation of prevention research, and the design and conduct of cost-effectiveness and cost-offset research in primary prevention. Several proceedings documents are in preparation. Funds were also provided for the planning phase of seven state-of-the-art workshops to be held in FY 1983. Topics to be covered by these workshops include: ethics and primary prevention, prevention research relevant to State mental health programs, healthy family functioning, health psychology, and psychoeducational approaches to the prevention of depression.

Centers for Disease Control (CDC)

The major goal of the Centers for Disease Control (CDC) is to lead public health efforts to prevent unnecessary disease, disability, and death. CDC pursues this goal through intermediate outcome goals—prevention and control of infectious disease; prevention of disease, disability, and death associated with environmental and workplace hazards; prevention and control of chronic diseases; and the promotion of health. In addition, CDC provides support to local, State, academic, national, and international efforts in disciplines basic to prevention—epidemiology, laboratory sciences, health education, and training.

CDC Prevention Highlights

Preventive Health and Health Services Block Grants. To provide States with funds for preventive health services for individuals and families, eight programs were consolidated into the Preventive Health and Health Services Block Grant. The uses of the block grant include supporting comprehensive public health services, community-based risk reduction programs, detection and prevention of high blood pressure, emergency medical services, rodent control, community fluoridation, home health services, rape prevention and crisis services, and other prevention programs proposed by individual States. For Fiscal Year 1982, 53 grants were awarded to 48 States and five other jurisdictions.

Center for Environmental Health (CEH)

The goal of the Center for Environmental Health is to prevent or control environmentally related health problems occurring outside the workplace. To accomplish this, the Center conducts programs designed to assist the public health community in the surveillance, investigation, analysis, prevention and control of environmentally induced health problems such as cancer, birth defects, injuries, environmental hazards and related chronic diseases. As the focus within DHHS for environmental health, the Center has been authorized to act on behalf of the Department for the health activities to be conducted under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (Superfund). The Center also serves as the coordinating point in PHS for the review of Environmental Impact Statements (in accordance with the National Environmental Policy Act) and for radiation emergency planning to better respond to accidents such as the Three Mile Island nuclear reactor leak.

CEH Highlights

Birth Defects Monitoring Program. This program was implemented in 1974. It maintains current, national surveillance of birth defects among about 25 percent of U.S. births. Some 150 separate birth defect categories are monitored for incidence trends. This program will allow the Center to determine the effect of environmental agents on birth defects occurrence and will indicate progress or lack of progress in reducing birth defect occurrence.

Veterans Birth Defects Study (Agent Orange). Agent Orange, a defolient used in Vietnam to deprive the enemy of natural ground cover, has been suspected of causing birth defects in children of U.S. Armed Forces exposed to Agent Orange. This study, a major epidemiologic analytical study, will assess the possible relationship of birth defects in the offspring of veterans of service in Vietnam. The study will draw on the Metropolitan Atlanta Congenital Defects Program (MACDP) as a data base source for defect cases. The MACDP maintains a registry of all babies born with birth defects detected near birth in the five county metropolitan Atlanta area and provides an excellent base for studies of this type.

Genetics. The health effects of environmental exposure are influenced by the unique genetic makeup of each individual. Environmental factors can induce genetic damages in both somatic cells and germ cells. The genetic changes in somatic cells may lead to cancer and gene damage in germ cells can result in pollution of the human gene pool causing increases of genetic diseases in future generations. The Genetics Laboratory of the Center is becoming concerned with the quantification of cellular and genetic damage (chromosome breakage, sister chromatid exchange, chromosomal fragile sites, cell metabolic assays) resulting from exposure to environmental agents. Research methods are being applied to a study of human cells in order to refine, improve and establish assay systems which will allow detection of human susceptibility to environmental toxins.

Detection and Measurement of Toxic or Hazardous Substances. As more toxic chemicals are used by industry and agriculture, the threat of human exposure becomes greater. The Center is concerned with this threat and through the Clinical Chemistry and Toxicology Laboratories is attempting to address the problem. Low level exposure to chemical agents and resultant impact on human health must be assessed in order to provide appropriate protection to the community. The mass spectrometer, recently installed and calibrated at CDC, allows the Clinical Chemistry Division to detect and measure chemical substances such as polybrominated biphenyls (PBB's), polychlorinated biphenyls (PCB's), dioxins, metals and other elements at trace levels in environmental and biologic samples. Definitive identification and quantification of trace organic compounds such as these is the first step in evaluating the impact of toxic chemical exposure on the human system.

Superfund. Congress, recognizing the need to help States and local communities address the growing problem of dealing with toxic chemical spills and waste dump hazards, established the Comprehensive Environmental Response, Compensation Liability Act of 1980. The Act established a fund through a system of tariffs on the manufacture of toxic substances, for addressing these hazardous situations. Under the authority of the Act, DHHS is responsible for the health aspects of the program the lead for which has been delegated administratively to CDC. Within CDC, CEH, through the Superfund Implementation Group, developed and is implementing a comprehensive program to address the environmental hazards posed by these dumps and toxic chemical spills utilizing expertise from various PHS agencies. These activities are being carried out in cooperation with EPA and other Federal, State and local agencies.

Natural Disasters. Weather and geologic phenomena, such as heat waves and volcanic eruptions, pose hazards to the health and well-being of the

community. The Center has responded to these environmental problems by evaluating their impact on human life. During and immediately after the Mount St. Helen's volcanic eruption, the Center undertook evaluation of the health effects from ash inhalation and developed studies to analyze the long-term effects on health and the environment.

Center for Health Promotion and Education (CHPE)

The goal of the Center for Health Promotion and Education (CHPE) is to reduce preventable morbidity and mortality and improve the quality of life. More particularly, CHPE is concerned with preventable diseases and conditions where human behavior is the cause, and where personal choice about behavior change is the solution of the preventable problem. The CHPE carries out its work in collaboration with Federal and non-Federal governmental agencies, international, and private sector organizations and professional societies in health promotion and education research and programs which address health-related behavior. Areas of involvement are reproductive health, including family planning; nutrition; smoking; alcohol; physical fitness; stress; violence; and injuries. CHPE's activities in support of this mission include epidemiologic behavioral and evaluative research, disease and risk factor surveillance and data analysis, demonstration programs involving innovative health promotion and education approaches and methodologies, and capacity building involving technical assistance, training, and consultation activities as well as encouragement of increased societal interest in health promotion and education activities.

CHPE Prevention Highlights

Nutrition Surveillance. The Center is working with 40 State health departments to establish a system designed to monitor continuously the status of the major nutrition problems in the United States. Twenty-five States currently have operating nutrition surveillance systems; three new States began submitting data in FY 1981. The system encompasses about 2,200 service delivery clinics which furnish data from approximately 900,000 screening and follow-up visits each year. Pregnancy nutrition surveillance, designed to monitor the prevalence of common nutrition problems among high-risk pregnant women, is under way in 12 States.

Health Education-Risk Reduction Program. In 1981, the Health Education-Risk Reduction Program provided approximately $13 million to States and territories to support projects to reduce the risks of premature death and disability associated with health behaviors. The 156 local intervention projects, which included a $10 million grant program for smoking and alcohol intervention demonstration programs, targeted problems such as smoking, alcohol abuse, obesity, lack of exercise, high blood pressure, and stress. State-level projects focused on determining risk factor prevalence, establishing systems for acquiring chronic disease morbidity and mortality data, and establishing effective working relationships among various health and community agencies to achieve an organized approach to risk reduction.

Health Risk Appraisal. During FY 81, the original health risk appraisal questionnaire and software designed by the Canadian Health and Welfare Ministry was revised to reduce errors in completing the form, to include increased emphasis on precursors related to homicide and suicide, and to improve the clarity of the computer feedback. This revised version is being tested and appropriate changes will be incorporated. The Center is also conducting field trials to test the appropriateness of health risk appraisal questionnaires for Black and Hispanic populations. Further work was initiated to review and update data bases on methodologies for assessing individual risk for cardiovascular disease and traumatic injury and to provide the structure for updating assessment of risk for all causes of mortality included in health risk appraisal.

Violence. The Center has begun several initiatives to improve estimates of the incidence of child abuse, homicide, and other forms of violence. CHPE collaborated with the National Center on Child Abuse and Neglect, the National Center for Health Statistics, and the FBI-Uniform Crime Reports to examine the problems of child abuse fatality, child homicide, and adult homicide at the national level. CHPE also used data from the Georgia Child Abuse Central Registry to illustrate a technique for differentiating surveillance artifacts from characteristics related to increased child abuse risk.

Reproductive Health Surveillance. CHPE initiated a large scale epidemiologic case control study to determine the association between oral contraceptive use and subsequent risk of breast, endometrial, and ovarian cancer. During FY 81, eight tumor registries began enrolling cases; preliminary analysis of the six months of data has begun and will be published in FY 82. Surveillance activities were also maintained for morbidity associated with surgical sterilizations, maternal mortality, and abortion-related morbidity and mortality.

Center for Infectious Diseases (CID)

The mission of the Center for Infectious Diseases (CID) is to prevent unnecessary infectious disease morbidity and mortality through research and services. To accomplish this, the Center conducts a national program to improve the identification, investigation, diagnosis, prevention and control of infectious diseases, including the evaluation of candidate vaccines of public health importance. The Center provides laboratory diagnostic services to State health departments and other qualified health care providers, on the basis of unmet national needs, and provides for the transfer of new diagnostic technologies to the public and private sectors.

CID Prevention Highlights

Prevention/Control of Hepatitis. Through studies in several major U.S. cities, hepatitis A has been shown to be transmitted by diapered infants in day care centers and therefore can pose a major threat to those areas having large day care centers caring for infants and toddlers. Subsequent studies, using gamma globulin, demonstrated that hepatitis outbreaks in day care centers can be controlled. Hepatitis B causes acute hepatitis, chronic hepatitis leading to cirrhosis, and can lead to cancer of the liver. A CDC study of 1,400 recipients, half receiving a placebo and half receiving a new commercial vaccine, has demonstrated that the vaccine is highly efficacious and safe. A demonstration project is planned to assess the public health impact achieved by targeting the vaccine to those persons in the community at highest risk of acquiring infection.

Toxic-Shock Syndrome. Toxic-shock syndrome, a recently identified illness that primarily affects young women of menstrual age, continued to be a high priority for CID. An epidemiologic study identified a specific tampon brand as associated with a markedly elevated risk of the disease; the brand was withdrawn from the market by the manufacturer. CID has continued surveillance on the disease since that time, demonstrating that cases are still occurring. Other studies have documented an association of *Staphylococcus aureus* as the probable etiologic agent of the disorder, and identified factors influencing carriage and production of a toxin which may be responsible for the disease.

Fingerprinting. The ribonucleic acid (RNA) oligonucleotide fingerprint technique has been applied extensively as a means of elucidating the origin and spread of epidemics caused by arboviruses (e.g., dengue, yellow fever, and certain types of viral encephalitises), as well as the stability of arbovirus vaccines. This technique, which provides an analysis of the genetic material of an arbovirus, allows detailed comparisons between virus strains of different origin and represents an extremely powerful molecular tool for answering epidemiological and virological questions. For example, recent studies have shown that dengue virus strains indistinguishable by all other means can be classified according to their geographic origin. An analysis of RNA fingerprints revealed that the epidemic of dengue type 2 in the Caribbean in the 1970's was the result of introduction of dengue virus from the South Pacific. Other studies have shown that commercially-produced yellow fever vaccines differ depending on the substrain origin of the vaccine stocks and that vaccine genetic stability and possibly safety can be assessed by genome analysis.

Hybridomas. Considerable progress has been made in the development and application of this new technology which makes it possible to produce virtually unlimited supplies of a wide variety of antibodies of desired specificity. CDC uses hybridomas and other new techniques in molecular biology to develop new methods of diagnosis, develop highly specific reagents, identify etiologic agents and develop new methods for purification of microbial antigens. Among the ways monoclonal antibodies have been used are to differentiate influenza A strains and to distinguish between two strains of Lassa virus isolated in West Africa and Mozambique. Monoclonal antibodies produced against cytomegaloviruses, herpes simplex viruses, and varicella-zoster (chickenpox) viruses are now being evaluated for their usefulness in detecting variations in strains. The use of this technique will also contribute to the improvement of existing and development of new vaccines and immunotherapeutic products.

Center for Prevention Services (CPS)

The Center for Prevention Services plans, directs, and coordinates national programs to assist State and local health agencies in carrying out their responsibilities for preventive health services. The CPS provides financial and technical assistance to aid State and local health departments in establishing and maintaining prevention and control programs directed toward such health problems as vaccine preventable diseases, sexually transmitted diseases, dental disease, diabetes, and tuberculosis. It also administers a national quarantine program to protect against introduction of diseases from other countries. The CPS maintains

a high level of operational knowledge related to the nature, scope, and occurrence of preventable health problems and conducts research to evaluate and improve the application of current technology to the prevention of disease.

CPS Prevention Highlights

Childhood Immunization. The success of the National Immunization Initiative (conducted from April 1977 to October 1979) formed the foundation for the achievement of the current high immunization levels in the Nation's children. Concentrating first on school-age children, intensive immunization activities resulted in the following protection levels for school entrants, assessed during the 1980–81 school year: 96 percent for measles and rubella, 95 percent for polio, diphtheria, tetanus, and pertussis, and 90 percent for mumps. These levels led to record low numbers of cases of five of these diseases in 1980—a trend which is continuing in early 1981. Due to this reduction, the goal of eliminating indigenous measles in the United States in 1982, is technologically attainable.

Diabetes Control. Diabetes afflicts more than 5.5 million Americans. The disease is the leading cause of adult blindness, and it subjects its victims to many devastating, and sometimes fatal, complications. Diabetics are more than twice as susceptible to coronary heart disease and stroke as the general population. Diabetics show an almost 40-fold higher amputation rate, and are hospitalized 2.5 times more frequently, with longer average hospital stays. The CPS prevention program is designed to reduce complications, hospitalization, and premature death related to the disease. Demonstration projects currently under way in 20 States are designed to reduce morbidity and mortality through the use of surveillance, epidemiologic studies, health planning, program evaluation, and resource coordination. Analysis of disease trend data will assist the States in measuring their progress toward a reduction of health problems and death associated with diabetes.

Sexually Transmitted Diseases. Each year more than 10 million cases of sexually transmitted diseases (STD) threaten the health of Americans, with the highest incidence being among adolescents and young adults. The rising incidence of infectious syphilis, the magnitude of the gonorrhea epidemic, the appearance and spread of strains of gonorrhea which produce an enzyme that destroys penicillin (penicillinase-producing *Neisseria gonorrhoeae* (PPNG)) and the serious complications of these diseases, including pelvic inflammatory disease (PID), ectopic pregnancies, infertility, and mortality in women are major concerns to prevention and control efforts. During 1981, Federal grant funds supported disease monitoring, screening, contact/referral services, and other STD outreach efforts in all States resulting in VD services to prevent an estimated 6,200 cases of syphilis and 205,000 cases of gonorrhea. With the expanding body of knowledge about STD and the documented need to improve clinical skills among both private and public health care providers, CDC has established nine geographically dispersed STD prevention/training clinics. Housed within public health facilities and utilizing the teaching talents of public health practitioners and medical school faculty members, these clinics provide a variety of training in the multiple disciplines involved in STD clinical care. In addition, CDC conducts operational research, publishes current information, and sponsors medical symposia to improve STD knowledge.

Fluoridation. CDC established a fluoridation project grant program in 1979 to provide financial and technical assistance to States and communities to fluoridate water supplies as a means for decreasing tooth decay. As a result of grants awarded to 37 States and 16 individual communities, since 1979, some 765 community water systems serving 10.8 million people and 139 rural school water systems serving 46,500 students have been assisted to fluoridate their water systems. Funds are authorized to provide assistance for water fluoridation activities in the future under the Preventive Health and Health Services Block Grant. CPS will continue to be a national focus for fluoridation activities and will provide technical assistance and consultation to States upon request.

Center for Professional Development and Training (CPDT)

The Center for Professional Development and Training (CPDT) plans, directs, and coordinates a program to develop and sustain a strong national workforce in disease prevention and control. In carrying out this mission, CPDT collaborates with other CDC programs, State and local health departments, academic institutions, and national and international health agencies. The Center conducts research and demonstration activities to determine methods for increasing the effectiveness of disease prevention and control programs and provides leadership in updating and improving the performance of public health professionals in these programs. In addition, the Center provides assistance to States in the establishment, mainte-

nance, and improvement of State and local health department training and technology transfer programs and collaborates with schools of public health and departments of preventive and community medicine to develop and implement improved learning programs for disease prevention and health promotion.

CPDT Prevention Highlights

Performance-Based Management Systems. In order for a public health program to accomplish its purposes, numerous work functions must be adequately performed. However, this work is seldom described explicitly. As a result, if a program is not accomplishing its purposes, it is often difficult to identify rapidly and accurately which essential work is not being adequately performed so that appropriate corrective action can be taken. Performance systems state precisely the work essential to the achievement of program objectives. The components of a system are: specific and measurable objectives, work functions to achieve the objectives, standards of performance for each major work function, and an assessment mechanism for determining if objectives are being achieved and essential tasks performed correctly. Performance systems for acute infectious disease control have been developed and implemented in collaboration with State and local health departments in three States. Performance systems for hypertension control have also been developed. Expansion of the acute infectious disease and hypertension performance systems to other States is planned, as is the development of performance systems for the control of chronic, degenerative problems such as diabetes.

Infectious Diseases/Hospital-Acquired Infections. Effective programs for the prevention and control of infectious diseases require a comprehensive, systematic approach to the utilization of surveillance data and the investigation of cases of illness. To provide health professionals with the skills and knowledge to perform the steps in such a work system, the CPDT has developed a course titled "Applied Epidemiology." CPDT offers this course at CDC and in the field; Center staff also qualify personnel in State and local health departments to serve as course managers for courses offered in their geographic areas and assist schools of public health to use the materials. A similar course has also been developed for infection control nurses in hospitals. Each year, an estimated 1½ million hospital-acquired infections occur, costing over $1 billion in additional direct hospital charges. The new training course is designed to provide infection control nurses with the skills and knowledge to conduct an effective infection control program. The course will be offered at CDC headquarters and through schools of public health. Other delivery mechanisms, such as nursing schools, professional associations, and health departments are also under consideration.

National Institute for Occupational Safety and Health (NIOSH)

The goal of the National Institute for Occupational Safety and Health (NIOSH) is to assure safe and healthful working conditions for every working man and woman in the United States. To that end, NIOSH plans, directs, and coordinates the national program to develop and establish occupational safety and health standards and to conduct research, training, technical assistance, and related activities. The Institute seeks to develop innovative methods and approaches to deal with occupational safety and health problems, and to provide medical criteria to ensure the protection of employees from diminished health, functional capacity, or life expectancy because of work experience. NIOSH consults with other Federal agencies, State and local government agencies, and industry and employee organizations to effect progress in occupational safety and health.

NIOSH Prevention Highlights

Personal Protective Equipment. Many of the almost 100 million workers in the United States suffer from occupationally-related injuries and illnesses that could be reduced or eliminated by modifying the work environment, designing new engineering controls, or providing workers with personal protective equipment. The major emphasis of the NIOSH personal protective equipment program is research, testing and certification of respirators, ear plug devices, and protective clothing. NIOSH is in the process of developing a new certification process based on performance requirements and test procedures that will assure that workers achieve the level of protection expected from the equipment.

Health Hazard Evaluation Program. The NIOSH program of most immediate benefit to this Nation's workers and employers is the health hazard evaluation (HHE) program. When requested by an employer or employee representative, NIOSH sends a team of industrial hygienists, physicians, and other support staff to the worksite to investigate unknown causes of worker illnesses and the extent to which a particular substance used in the

workplace may be hazardous. NIOSH has conducted over 1500 such investigations since the organization was established in 1970. Over half of these investigations have found that a health hazard did in fact exist. Although NIOSH as a research organization has no enforcement authority, most NIOSH recommendations for reducing hazards are implemented by employers and workers. To assure that workers in similar industries can benefit from the recommendations, the results of HHE's are disseminated widely as summaries to occupational safety and health professionals and through CDC and NIOSH publications and appropriate industry/labor trade journals. Of significance is the fact that these program improvements have occurred largely as a consequence of workers and employers increased awareness of this service and interest in protecting their health.

Epidemiology Program Office (EPO)

The mission of the Epidemiology Program Office (EPO) is to serve as a national focus for epidemiology and surveillance by promoting the dissemination and application of available knowledge and technology in regard to epidemiologic and surveillance methods and by developing new methodologies. The Office is the focal point for CDC for the collection, analysis, and communication of basic disease surveillance information and provides assistance to States in analyzing the effects of various epidemiologic factors such as demographic characteristics on the incidence and severity of preventable disease. The Office publishes the *Morbidity and Mortality Weekly Report* as well as other surveillance reports. EPO also maintains and enhances the Epidemic Intelligence Service (EIS) through recruiting, training, and assigning EIS officers throughout CDC and in State and local health departments.

EPO Prevention Highlights

Epidemiologic Investigations and Surveillance. CDC epidemiologists are actively involved in conducting epidemiologic investigations and surveillance activities throughout the United States. During FY 1981, EIS officers based in Atlanta participated in 94 major investigations related to disease outbreaks and emergencies related to the environment. Officers assigned to NIOSH participated in approximately 150 evaluations of health hazards related to the workplace. Officers assigned to State and local health departments were involved in approximately 975 disease outbreaks, surveillance projects, and special studies. To disseminate the results of these investigations more rapidly, CDC began telecommunicating the *Morbidity and Mortality Weekly Report* (MMWR) to State health departments, regional offices, and Canada.

New Epidemiologic Methods. New methods of data collection and analysis in both infectious and noninfectious disease surveillance have been developed. CDC is developing new methods for design and analysis of case control studies to determine if all the variables in a study are relevant for the disease and to identify potential risk factors. A new approach has been developed to monitor influenza and to estimate excess deaths using the 121-city influenza mortality surveillance data and NCHS mortality data. Similarly, a mathematical model is being developed for temporal-geographical spread of disease which will be used to predict spread of disease. This model will be applied to a joint research project with the USSR and a cooperative effort with researchers from the University of Bristol and Cambridge University using measles data from Iceland to describe the spread of infectious disease.

Alcohol Epidemiology. To investigate the genetic metabolism factors in the etiology of alcoholism, CDC initiated a cooperative study with the Harvard Medical School and the National Institute on Alcohol Abuse and Alcoholism. The purpose of the study is to explore the question of genetic predisposition for alcoholism by examining the biochemistry of alcohol metabolism and attempting to determine whether there are different metabolic breakdown products in alcoholics versus non-alcoholics. The first phase, completed in FY 1981, was a pilot test using 50 male subjects from an alcohol treatment center in Framingham, Massachusetts, and 30 controls.

International Health Program Office (IHPO)

The International Health Program Office (IHPO) assists, consults and participates with other nations and international agencies in preventing and controlling diseases and environmental health problems. The Office coordinates CDC efforts to develop and test new and improved control procedures, evaluate and conduct research activities, and participate in the special foreign currency program (P.L. 480) for activities overseas. As part of CDC's role in international health, the Office hosts foreign visitors to the Centers for Disease Control and maintains regular liaison with the PHS Office of International Health and with other organizations concerned with international health.

IHPO Prevention Highlights

Global Expanded Programme on Immunization. With increasing international travel, the threat of infectious disease importation into the U.S. increases correspondingly. Stronger national immunization programs will not only reduce morbidity and mortality from the Expanded Programme on Immunization target diseases, but should reduce the risk of disease exportation. This is an important consideration for U.S. public health officials, particularly with respect to the U.S. measles elimination effort. This program, coordinated by the World Health Organization, assists in the development of national capabilities to reduce morbidity and mortality in the under 5 age group from six vaccine preventable diseases: measles, pertussis, tetanus, polio, diphtheria and tuberculosis.

Global Control of Diarrheal Diseases. This program, coordinated by the World Health Organization, helps with the development of national capabilities to reduce morbidity and mortality in children under 5 caused by diarrheal diseases. CDC has helped WHO develop training materials and conduct courses in 50 countries for senior level national personnel and is presently cooperating with WHO on the development of training materials for mid-level national personnel. CDC intends to support the program in sub-Saharan Africa by participating in research on the best strategies for oral rehydration, and on the development of protocols for evaluating cause-specific childhood morbidity and mortality and the impact of daily operations of Global Control of Diarrheal Diseases programs.

International Water Supply and Sanitation Decade. The improvement of drinking water supplies has been recognized by the United Nations as a critical technological need of developing nations. The years 1981–90 have been designated as the International Water Supply and Sanitation Decade, a period during which programs will be initiated to improve drinking water sources and thereby reduce those diseases transmitted through contaminated water. CDC is participating in this effort by providing epidemiologic and scientific expertise in the control of dracunculiasis. Dracunculiasis is a parasitic infection which is contracted solely by drinking contaminated water and usually affects only persons in remote rural areas. The infection occurs most intensively in West Africa and India, but also persists in some East African and Middle Eastern countries with an estimated 10 to 48 million persons affected worldwide.

Laboratory Improvement Program Office (LIPO)

The goal of the Laboratory Improvement Program Office (LIPO) is to assure quality laboratory test results for use in both the preventive and diagnostic health care sectors. To this end, the Office provides basic quality assurance systems (performance monitoring, needs assessment and standards development, and proficiency testing) in support of the licensure and certification function which resides within the Health Care Financing Administration. In addition, the Office serves as a focal point for laboratory improvement programs within the Federal Government by providing training and consultation in good laboratory practice, training and consultation in laboratory management and resource utilization, and assistance in the identification and resolution of performance problems within U.S. clinical and public health laboratories.

LIPO Prevention Highlights

Protecting Infant and Maternal Health Through Valid Laboratory Testing. Since assuring all infants a healthy start in life and enhancing the health of their mothers are among the highest priorities in preventing disease and promoting health, CDC established and maintains performance evaluation programs for laboratory tests that provide information that is important in providing proper prenatal and perinatal care and in family planning. These tests include: hemoglobinopathy identification; hemoglobin, PKU, and T_4 concentration measurements; Rh typing; sexually transmitted disease microbiology; drug abuse identification; rubella and syphilis serology; and exfoliative cytology. Special consultation and technical assistance to improve test performance has been provided to approximately 250 participant laboratories on request.

Hepatitis Prevention from Use of More Sensitive Test. CDC encouraged a shift to a more sensitive test for hepatitis when proficiency testing results demonstrated that the less sensitive tests for hepatitis B failed to detect low levels of antigen in patient samples and that their use could result in transfusion of serum capable of transmitting hepatitis. The percentage of laboratories using the most sensitive third generation tests increased from zero in 1971 to essentially 100% now. These changes resulted in less expensive testing and fewer transfusion-associated cases of hepatitis.

Enhanced Validity of Blood Lead Test Results. With respect to toxic agents such as lead, objective measurement of concentration levels of recognized toxic agents is necessary to define biologic effects of exposure and to control toxic hazards to humans. The CDC has systematically moni-

tored and worked to improve laboratory performance of blood lead measurement since 1976, and has cooperated with the Occupational Safety and Health Administration since 1979 to identify laboratories which are reliable. As a result of these efforts, the number of laboratories participating in the program that are competent in this test has more than doubled, increasing from 49 in 1979 to 104 in 1980.

Drug Abuse and Detection Validity. The detection and treatment of drug abuse requires reliable laboratories for urinary drug screening. In conjunction with the National Institute of Drug Abuse, CDC has, since 1973, conducted an external quality control program to identify quality drug screening laboratories and assist poor performing laboratories with their technical problems. By monitoring the performance of more than 450 laboratories, this program assists methadone treatment centers and the Administrative Office of the U.S. Courts in selecting adequate laboratory support. In 1981 the rate for unsatisfactory performance in participating laboratories dropped to 2 percent, from 20 percent in 1978.

Food and Drug Administration (FDA)

FDA is the regulatory agency responsible for assuring that food is safe and wholesome, drugs, biological products, and medical devices are safe and effective, cosmetics are safe, and the use of radiological equipment does not result in unnecessary exposure to radiation. FDA approves new drugs, food additives, and certain medical devices before they can be marketed, and conducts inspections of related manufacturing and processing plants. The agency issues public warnings when hazardous products are identified, and it is empowered to remove unsafe products from the market. FDA is authorized to initiate legal action in the event of misleading labeling. FDA's program activities are distributed among the Bureau of Foods, the National Center for Drugs and Biologics, the Bureau of Radiologic Health, the Bureau of Veterinary Medicine, and the Bureau of Medical Devices, as well as the National Center for Toxicological Research.

FDA Prevention Highlights

Sodium. Based on the knowledge that low sodium diets can be of benefit in the management of many cases of hypertension, FDA launched a major sodium reduction initiative urging expanded sodium labeling and education to help improve the health of the 60 million people in this country who have established or borderline high blood pressure. The initiative has five major components:

- Encourage the food industry to voluntarily reduce the amount of sodium added to processed foods and to market more foods that are lower in sodium. The goal is to make available to consumers a wider choice of foods in the marketplace, so that those who choose to follow a low sodium diet can do so.
- Propose regulations that would require sodium to be part of every nutrition label. This would make sodium information available, in milligrams per serving, on the 40 percent of processed foods that now carry nutrition labeling. The proposed regulations would also define what constitutes a low-sodium food.

- Consider the need for new legislation to mandate virtually universal sodium labeling if the voluntary efforts do not succeed.
- Conduct an education program so that the public understands the relationship between sodium and high blood pressure.
- Monitor the marketplace to see how much sodium is being consumed by the public, whether FDA's efforts in terms of increasing the availability of sodium information on food labels provide increased consumer choices and whether efforts are being successful.

National Center for Drugs and Biologics

In 1982 a new National Center for Drugs and Biologics was created through a merger of the Bureau of Drugs and the Bureau of Biologics. The regulation of biological products has been the responsibility of FDA's Bureau of Biologics. Regulated products include polio and measles vaccines, diphtheria and tetanus toxoids, skin test substances, and whole blood for transfusions. Most biological products are derived from living organisms, and are by their nature potentially dangerous if improperly prepared or tested. Therefore, the National Center tests many of these products before their release by the manufacturer for general use. Because biologics are legally defined as "drugs," the Center has ensured that all biological products meet the requirements for safety and effectiveness prescribed by the Public Health Service Act and appropriate sections of the Food, Drug, and Cosmetic Act.

FDA's Bureau of Drugs has been responsible for regulating all medications used by humans with the exception of biological products such as serums and vaccines. The newly merged National Center approves all new drugs for safety and effectiveness before they can be sold to the public. Approval is based on review of extensive scientific data and test results submitted to the Bureau by the organization seeking authorization to market the drug (normally the drug's manufacturer). The manufacturer must also demonstrate its ability to manufacture high-quality products. The Center is also concerned with proper communications regarding drugs and requires that labels contain adequate warnings and directions for use.

Drugs Prevention Highlights

Prescription Drugs: National Consumer Education Campaign. FDA has initiated a comprehensive campaign to educate consumers about the safe and effective use of prescription drugs. A major theme of the campaign is the hazards inherent in an "overmedicated society." Included are television and radio public service announcements, in English and Spanish. FDA has secured the aid of health professionals to encourage dialogue between physicians and patients and between consumers and pharmacists. The campaign is being coordinated with activities of the National Institute on Drug Abuse.

Fetal Alcohol Syndrome: National Consumer Education Campaign. Babies born to mothers who drink excessively during pregnancy may suffer physical and mental defects including slow growth before and after birth, head and facial irregularities, defective organs, malformed limbs, mental retardation, and other abnormalities. In cooperation with the National Institute on Alcohol Abuse and Alcoholism and the Bureau of Alcohol, Tobacco, and Firearms, the FDA has cooperated in a program initiated in May 1978 to alert the public, especially pregnant women, to the potential health hazards that alcohol poses for unborn children. Among the elements of this continuing campaign are public service announcements that have been delivered to radio and television stations across the country and relevant articles published by FDA and distributed nationwide.

Darvon: National Educational Effort. In response to discoveries of certain risks associated with the use of the drug Darvon (propoxyphene), FDA issued a special *Drug Bulletin* in 1979 to alert physicians, pharmacists, dentists, and other health professionals about these risks. An article on the subject was printed in *FDA Consumer*, available to the public through the Consumer Information Center. FDA also ordered a major new boxed warning in the labeling of Darvon to discourage unnecessary use and to promote greater care in prescribing the drug. In 1980, FDA requested that physicians write "no refill" on the prescriptions and that they prescribe the drug only in writing. Recent information indicates an increase in physician and patient awareness of the potential for abuse of propoxyphene, a concurrent reduction in the number of prescriptions issued, and a reduction in deaths and emergency room visits occasioned by abuse of the drug.

Poison Control Program. FDA directs a national program of activities related to accidental poisonings. As a part of this effort, FDA assists local prevention and treatment activities in such ways as providing educational materials and scientific data on the toxicity of drugs and other chemicals. Each year, FDA participates in National Poison Control Week, an effort to focus public attention on this important public health problem.

Bureau of Foods

The Bureau of Foods conducts research, maintains data, and develops regulations and standards on the composition, quality, nutrition, safety, and purity of foods, food additives, colors, and cosmetics. The Bureau also has the responsibility of checking labeling for accuracy. Effective food labeling can contribute to the Nation's health by helping consumers choose foods with the appropriate caloric and nutrient values. Because advances in technology have created more processed and fabricated foods, and because the relationship of nutrition to certain diseases is becoming better understood, accurate and informative labeling about a product's nutrient content and its other characteristics has even greater public health significance now than in the past. Furthermore, disease and other abnormal physiological conditions such as allergies compel many Americans to follow special diets. These people especially need informative food labeling. FDA is working with the food industry to promote voluntary listing of nutrition information on labels.

Bureau of Foods Prevention Highlights

Nutrition Education Materials. To promote good health through knowledge of nutrition, FDA contracted in 1976 with the University of North Carolina (UNC) to develop a model course in applied nutrition for health professional students who would participate both in classroom instruction and in clinical care of community patients. Thirty-five of the 45 classroom sessions were designed to also be usable as self-instructional programs. A curriculum guide was also developed for faculty members and other health professionals who might wish to conduct a similar course. UNC is now in the process of developing self-instructional programs for the 10 remaining lectures in the series. The concept of an entire curriculum in applied nutrition with an interdisciplinary approach is unique. The value of the self-instructional programs is that they provide single-unit content and concepts, and that selected units may be chosen for a given course.

Aspartame. FDA has approved a low-calorie sweetener called aspartame that is made by combining two elements found naturally in protein. Since 1970, when FDA banned cyclamate after two studies raised questions about its safety, saccharin has been the only artificial sweetener on the market. The safety of saccharin has been debated since 1977, when a number of animal studies showed that it is a weak cancer-causing substance. Aspartame can provide the sweetness of a teaspoon of sugar (18 calories) with only one-tenth of a calorie. Aspartame has been approved for sale as a tablet and as a free-flowing sugar substitute for dining-table use, and for use by manufacturers of cold cereals, drink mixes, instant coffee and tea, gelatins, puddings and fillers, and dairy products. Approval was not sought for use in liquid products such as carbonated soft drinks.

Food Sanitation and Quality Control. FDA published a revised Technical Bulletin No. 1: *Principles of Food Analysis for Filth, Decomposition, and Foreign Matter.* This book is written to aid food analysts and sanitarians in the prevention of food contamination and in the detection of filth, decomposition and foreign objects in food. Chapters dealing with food contaminants discuss the structure, composition, and identification of fungi, protozoa, helminths, mites, insects and hairs. Chapters on analytical tools used in filth detection and identification include discussions of microscopy, photography, scanning electron microscopy, and crystallography. The book also describes techniques for detecting filth, plant tissues, and molds as well as the waste products of insects, mammals, and birds in foods. The book is available from the Government Printing Office.

Lead. Lead is a toxic substance occurring in the environment, including food, and has been a matter of concern to FDA and other public health agencies for some time. It is believed that the margin of safety of lead poisoning from dietary intake is adequate for adults but questionable for children. The main concern regarding lead as a food additive is that it migrates to food from its use in solder in the manufacture of food cans. Since 1972, FDA has initiated a number of programs to monitor and reduce the lead levels in the food supply. Because of the concern about the levels of lead to which infants and young children may be exposed, top priority has been placed on reduction of lead in processed foods for infants. Largely as a result of FDA's program, there has been a reduction in the average lead level in evaporated milk from 0.52 pmm in 1972 to 0.08 ppm in 1980. Significant lead reductions have occurred in other products such as infant juices, infant formula and baby foods.

Bureau of Medical Devices

The Bureau of Medical Devices protects and promotes public health by preventing unsafe or ineffective medical devices from being legally marketed in the United States. This is accomplished through the Bureau's authority to provide for classification and premarket approval of medical de-

vices, to require the use of Good Manufacturing Practices, and to require selected devices to meet specified performance standards. The Bureau also conducts research and testing related to medical devices, collects and evaluates data concerning hazards associated with use of medical devices, and educates consumers to participate effectively in their own health care and to protect themselves from unsafe, ineffective, or fraudulent medical devices.

Bureau of Medical Devices Prevention Highlights

Tampon Labeling Regulation. In mid-1980, the Centers for Disease Control reported an association between tampon use and the incidence of Toxic Shock Syndrome (TSS) in women. TSS is a particularly virulent disease, marked by high fever, vomiting, and diarrhea, with rapid progression to hypotension, shock, and occasionally death. The cause of TSS is not yet known with certainty, but a toxin produced by staphylococcus aureus is suspected. As the statistical evidence of a link between tampon use and TSS became clearer, FDA published a proposed regulation requiring warning labels on all tampons. The proposed warning reads:

> "ATTENTION: Tampons have been associated with Toxic Shock Syndrome (TSS). TSS is a rare disease that sometimes causes death. You are advised to read the enclosed information (or the information on the package) completely before using tampons."

Under the proposal, additional information on TSS, its symptoms and its danger, would be required. FDA research on TSS continues and FDA is reviewing comments on its proposal to require that mandatory information accompany tampons.

Bureau of Radiological Health

The Bureau of Radiological Health is responsible for protecting the public against the hazards of radiation, primarily from radiation-emitting medical and consumer products. It conducts research into the health effects of radiation, establishes and enforces standards for products that emit radiation, develops recommendations on safe radiation practices, and conducts educational programs on radiation protection for health professionals and consumers.

Bureau of Radiological Health Prevention Highlights

Criteria for X-ray Examinations. A major cause of unnecessary x-ray examinations is a lack of scientific data to guide physicians in deciding when x-ray procedures are diagnostically warranted. To help provide this guidance, FDA is working with clinicians and medical organizations in developing voluntary referral criteria for specific x-ray procedures. Special attention has been given to x-rays for pregnant women, chest x-rays, and dental x-rays. Both physicians and patients are being urged to employ measures which can reduce the exposure of the fetus to x-rays. Additionally, as a consequence of a Surgeon General's request that Federal agencies review their requirements for routine chest x-rays, 160,000 unnecessary chest x-ray screening procedures were eliminated annually by these agencies.

Diagnostic X-rays: Consumer Education. In addition to developing information for health professionals about optimum radiation practices, FDA is also educating patients about their role in helping to minimize unnecessary exposure. In a cooperative effort with medical organizations, consumer groups, hospitals, and State and local health agencies, the public is being informed about x-ray protection with the following basic messages: discuss the need for the x-ray examination with your physician or dentist; don't refuse x-rays that are needed; don't insist on having x-rays; inform the physician about possible pregnancy; inquire about gonad shielding; and keep a record of previous x-ray examinations.

X-ray Quality Assurance Programs. Two innovative FDA-designed programs now in operation in most States are intended to reduce unncessary patient exposure from dental x-rays and breast x-rays (mammography). State and local radiation control agencies mail special cards containing miniature radiation measurement devices to facilities that perform dental radiography or mammography. The cards are exposed as a patient would be, then returned to the agency, where they are "read" to determine radiation exposure. Those facilities with inappropriate exposure levels are scheduled for consultative visits during which corrective measures are suggested. The dental program, begun in 1972, has demonstrated a 40-percent reduction in average patient exposure. Comparable results have been achieved in the mammography program, initiated in 1976. FDA also provides hospitals and physicians' offices with protocols for general x-ray quality-assurance activities which can help to minimize patient exposure while producing optimum diagnostic information.

Sunlamp Safety. An estimated 800,000 to 1 million home sunlamps are sold in this country each year. In addition, there may be as many as 10,000 commercial suntanning facilities. Overexposure to the ultraviolet radiation these devices emit can cause immediate harmful effects, such as skin and eye burns, and long-term effects, such as increased risk of skin cancer and accelerated aging of the skin. To minimize this damage to health, FDA issued a performance standard for sunlamp products, effective May 1980, requiring timing devices, protective goggles, warning labels, instructions for use, and protection against short-wavelength ultraviolet radiation. To minimize possible harmful results of using commercial tanning facilities, new revisions in the sunlamp standard will include requirements for appropriate warnings to customers about risks and precautions.

Laser Light Show Safety. The use of laser devices in indoor and outdoor displays and during concerts can expose audiences to levels of light radiation capable of damaging the eye. FDA requires light show operators to comply with certain safety requirements and procedures to avoid such damage, and is working with State and local authorities to enforce these requirements.

Potassium Iodide During Nuclear Emergencies. In a radiation emergency involving the release of radioactive iodine, potassium iodide could help prevent radiation injury to the thyroid gland by saturating the gland with non-radioactive iodine, blocking the thyroid from absorbing radioactive iodine from air, water, milk or foods. FDA has proposed recommendations on when and how to use potassium iodide to protect the public during a radiation emergency; the recommendations are intended as guidance for State and local health officials. The recommendations identify levels of radiation exposure from an accident that would warrant the use of potassium iodide, provide the specific doses and periods of administration of this drug for adults and children, recommend that State and local authorities establish a system for disseminating public information on the proper use of potassium iodide and reporting side effects from the drug, and recommend that the public be advised on obtaining medical assistance in the event of an adverse reaction to the drug.

Bureau of Veterinary Medicine

The Bureau of Veterinary Medicine develops, conducts, and evaluates programs to ensure the safety and effectiveness of preparations and devices proposed for use in animals. The Bureau evaluates FDA's surveillance programs relating to veterinary drugs and other veterinary medical matters. Eighty percent of the meat-producing animals in the United States are raised on medicated feeds. FDA's Bureau of Veterinary Medicine is responsible for ensuring that medicated and nonmedicated feeds are safe and effective, that farmers and producers of food animals understand how to use feeds and drugs, and that foods from animals are free from drug contamination. The Bureau also has taken the lead in promoting voluntary compliance of FDA regulations, and in promoting the prevention of major nationwide contamination incidents through a comprehensive national education campaign emphasizing contamination awareness among the agribusiness community. The Bureau makes every concerted effort it can to discharge its responsibilities in ensuring the safety of our Nation's food supply for human consumption.

National Center for Toxicological Research

Knowledge of the disease state, its cause and its mechanism of action are important components of building a successful disease prevention program. The National Center for Toxicological Research (NCTR) was created to develop this knowledge with respect to harm caused to humans by toxic chemicals. NCTR is an interagency facility funded by FDA and EPA, which conducts research aimed at solving regulatory problems for FDA, the Environmental Protection Agency, the United States Department of Agriculture, the Consumer Product Safety Commission, and the National Institute of Occupational Safety and Health. Recognizing that knowledge of the actual level of harm to humans due to exposure to potentially toxic compounds lags behind our desire to protect society, the Center is developing both an understanding of the mechanisms of toxicity in humans and ways to measure the impact of those hazards on human health. Since it is not practical to ban all chemicals, society will not be successful in preventing adverse health effects due to toxic chemicals until we develop accurate measures of toxicity. Only then will we be able to limit human exposure to those chemicals presenting true health hazards. Under this program, more reliable tests are developed for predicting genetic damage, neurotoxicity, carcinogenicity, reproductive and fetal toxicity, immunotoxicity, and cellular toxicity. NCTR aims to develop improved methods of extrapolating toxicity data from animals to humans,

as well as the toxic impact of chemicals alone and in combination with one another, so that the regulatory agencies can better assess human risk. The Center performs comprehensive toxicological evaluations for selected chemicals of particular interest to FDA, EPA, and the National To[illegible]ology Program.

Health Resources Administration (HRA)*

The several missions of the Health Resources Administration include: to identify health care resource needs through a careful assessment of the health care system; to recommend changes to improve access to health care, improve continuity of health care, assure equal access to health education, and enhance the Federal, State, local, and private partnership; and, through program action, to improve both the health care system and individual health status. HRA focuses on prevention and health promotion issues in a number of specific areas, including preparation and training of health professionals and preventive services in regional health planning and resource development.

Bureau of Health Professions (BHPr)

The Bureau of Health Professions provides national leadership in coordinating, evaluating, and supporting the development and utilization of United States health personnel. It assesses the supply and requirements of the Nation's health professions and develops and administers programs to meet those requirements; collects and analyzes data and disseminates information on the characteristics and capacities of health professions production systems; and develops, tests, and demonstrates new and improved approaches to the development and utilization of health personnel within various patterns of health care delivery and financing systems. The Bureau provides financial support to institutions and individuals for health education programs, administers Federal programs for targeted health personnel development and utilization, and provides technical assistance to National, State, and local agencies, organizations, and institutions for the development, production, utilization, and evaluation of health personnel. The Bureau carries out a variety of program activities to ensure adequate and appropriately trained health personnel who will contribute to the development of disease prevention and health promotion servies.

BHPr Prevention Highlights

Curriculum Models in Occupational, Industrial, and Environmental Medicine. Most medical school curricula are deficient in the areas of occupational, industrial, and environmental medicine. Grant projects at 29 medical schools continued to augment teaching through the development and introduction of curriculum improvements in environmental and occupational health. Efforts initiated by the Association of Teachers of Preventive Medicine and the American Medical Student Association are currently under way to review, catalog and disseminate instructional materials developed and used by these projects. In addition, a two-year contract was awarded to develop, implement,

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evaluate and disseminate an educational program for family physicians and students of family medicine, focusing on selected components of occupational, industrial and environmental medicine.

Nurse Practitioner Grants. The Nurse Practitioner Program supports approximately 100 programs designed to prepare registered nurses for expanded roles in the delivery of primary health care. These educational programs cover the gamut of life stages from infancy to senescence and include the specialty areas of pediatrics/gynecology, midwifery and geriatrics. Functioning as primary health care providers, nurse practitioners supplement services provided by physicians, particularly in areas related to the promotion and maintenance of health and the prevention of illness and disability. Graduates of these programs have an impact on prevention in a variety of ways. For example, the graduates of the Frontier School of Midwifery and Family Nursing are providing longitudinal maternal and infant health care and other primary and preventive health services to citizens of rural Appalachia who traditionally have had little access to medical care.

National Symposium on "Prevention and Medical Practice: The Role of Undergraduate Medical Education." The Division of Medicine collaborated with the Office of Disease Prevention and Health Promotion in sponsoring a national symposium on "Prevention and Medical Practice: The Role of Undergraduate Medical Education." The symposium, held October 5–6, 1981, served as a forum for fostering the teaching of disease prevention and health promotion in undergraduate medical education.

Health Professions Implications of "Objectives for the Nation." Panels were convened to begin analysis of the "Objectives for the Nation" health promotion and disease prevention measures. Panel members assessed the objectives and measures for health promotion and disease prevention to determine which have health personnel implications. A consultant was hired to prepare a report that would provide an analytic framework for assessing the implications of the health promotion and disease prevention objectives for the health professions.

Nutrition Workshop. A National Nutrition Workshop on Nutrition Education of Health Professionals was held to consider the issues in applied and clinical nutrition for health professions education.

Evaluation of Curricular Change. In Fiscal Year 1981 an intramural evaluation project was initiated to determine at selected medical schools the extent and characteristics of curricular change that occurred after the introduction of new teaching modules in occupational/environmental medicine. This project will be completed in Fiscal Year 1983.

Report on Curriculum Development Activities. The Division of Medicine prepared and published a report entitled *Environmental Health—Curriculum Development Project Activities.* The report was distributed at several national and BHPr-sponsored meetings as well as by mail to interested parties.

Bureau of Health Planning (BHP)

The Bureau of Health Planning, through a network of State Health Planning and Development Agencies and Health Systems Agencies (HSAs), is responsible for regional health planning and resource development. At each agency, volunteer consumer and provider board members—more than 30,000 nationwide—work in a public forum to plan for area health needs, moderate health care costs and improve the availability of health care services. In an effort to learn about prevention and promotion activities being conducted by health planning agencies, the Bureau of Health Planning surveyed State and local agencies in 1980. The study found that almost two-thirds of the agencies contacted have developed at least five separate health promotion/disease prevention programs. Early activity has centered on immunization, pregnancy care and infant health services—although fluoridation, alcohol and drug abuse, smoking, occupational safety and accident prevention are areas beginning to receive increasing attention.

BHP Prevention Highlights

Health Promotion Activities. Working through the Health Systems Agencies, BHP has supported activities to educate the public concerning personal health care and promote both community health and occupational safety through a variety of programs. The following summaries highlight typical agency activity in this area:

- The North Louisiana Health Systems Agency in Shreveport has undertaken an extensive program of public information and health education in a variety of health promotion areas. Ac-

tivities have included: eight health fairs emphasizing risk factors; public service announcements on accident prevention and injury control; training sessions on cardiopulmonary resuscitation; tests and demonstrations on physical fitness for the elderly; and production of a health curriculum for local school boards.

- The Maine Health Systems Agency, through the creation of a Maine Labor Group on Health, has encouraged occupational health promotion throughout the State and developed a State law guaranteeing workers the right to know if they are working with dangerous chemicals and what the potential health hazards are.
- The North Shore Health Planning Council in Peabody, Massachusetts, has established health promotion programs in 20 local work sites. The agency began this effort by surveying 280 employers whose work force exceeded 100 persons to determine their interest in instituting health promotion programs for their workers. A series of training workshops was provided to train occupational health nurses from local industry in health promotion techniques. The agency also produced and marketed a directory listing the various parts of the health promotion program for use by employers. In all, over 700 employees have been given health promotion courses, 24 occupational health nurses have been trained and about 200 directories have been sold to area businesses.

Disease Prevention Activities. HSAs are working with the communities on a variety of disease prevention efforts touching on almost every aspect, from improving water quality to developing regional perinatal networks to help reduce infant mortality. Following are some examples of activities by HSAs:

- The Mississippi Health Systems Agency initiated a comprehensive Statewide campaign to increase the number of children immunized against childhood diseases. An intensive public education campaign, with the support of the governor, involved the use of television and radio spot announcements, newspaper articles, highway billboards and special projects in the schools. Over 1,000 volunteers were enlisted from a wide range of community organizations to help conduct the program. By the end of the program in late 1980, the level of protection against childhood diseases increased to 99 percent for grades 1 through 12. The overall level for all children 14 and under had been raised from 65 percent to 80 percent. A similar program to increase flu immunization levels among the elderly and those with chronic illnesses resulted in doubling the percentage of those immunized.
- Working toward a health plan goal, the Health Systems Agency in Knoxville, Tennessee, convinced officials of three of the four water systems in the area to fluoridate their drinking water. The effort, costing very few dollars, has benefited 57,000 persons who will realize a long-term result of at least 50 percent fewer cavities. The agency's efforts involved negotiations with water system commissioners, community education and technical assistance to help secure funding for the program.
- As a result of efforts by the Southern Nebraska HSA, a specially targeted cancer screening program was developed and conducted at a local industry, and in rural and urban areas of the health service area. The screening program for colorectal cancer involved 2,000 Burlington Northern Railroad employees and their families, 3,000 residents of metropolitan Lancaster County and 1,000 residents in rural York County. The success and acceptance of the program prompted organizations in other communities to sponsor similar screening programs. Besides detecting cancer and other diseases, the effort has produced an effective model program and materials for future screening projects.

Health Services Administration (HSA)*

The programs administered by the Health Services Administration are designed to provide comprehensive health care services for mothers and children, migrant workers, Indians and Alaskan Natives, residents of medically underserved and health manpower shortage areas and those afflicted with Hansen's Disease and other mandated groups and populations. HSA accomplishes this goal by: working closely with States and providing them professional and technical aid in implementing block grant programs in maternal and child health and primary care; encouraging health professionals to establish their practices in communities short of health manpower, thus helping to correct inadequacies in the national distribution of health services; by improving the quality of health care while fostering more efficient methods of delivering it; and, by directly providing hospital and clinical care to certain legally defined groups of citizens. HSA's community programs bring health care to previously neglected areas by helping to identify local health care needs and by supporting the development to meet those needs.

Bureau of Community Health Services (BCHS)

The Bureau of Community Health Services helps assure the delivery of primary health care, preventive health services and other specialized care to medically underserved populations and to other groups having special health needs. Assistance is given to States as they help coordinate delivery of primary care which has been supported through project grants and which, effective October 1, 1982, may be supported through the Primary Health Care Block Grant that will be made directly to the States. Assistance is also provided through the Maternal and Child Health Services Block Grant which allocates funds to the States to help assure access for mothers and children, particularly those with low incomes or having limited availability to health services, to quality maternal and child health services. Proper access to and use of good health care is expected to reduce infant mortality and the incidence of preventable diseases and handicapping conditions among children. Especially important is the location of children with handicaps and the provision of rehabilitation services for retarded and disabled children. In FY 1981, support to local, voluntary, public and private groups, and to States, also helped meet the health needs of special populations such as migrants, victims of black lung disease, those eligible for voluntary family planning services, persons with hypertension, and Appalachian residents.

BCHS Prevention Highlights

Maternal and Child Health Services Block Grant. The Omnibus Budget Reconciliation Act of 1981 (P.L. 97-35) consolidated seven programs to create the Maternal and Child Health Services Block Grant. The purpose of this block grant is to provide States with funds to support health services for mothers and children. States may use the funds allocated under this block for maternal and child health services; preventive measures to reduce infant mortality and prevent disease; rehabilitation services for blind and disabled children; medical, surgical and corrective services for diagnosis, hospitalization and care of children who are crippled or who have potentially crippling conditions; hemophilia treatment centers and genetic disease counseling and screening projects; research and training projects, as well as other maternal and child health programs proposed by the States.

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Productivity/Effectiveness Initiative. This program was instituted in Fiscal Year 1979 to increase productivity and effectiveness in ambulatory care projects. The aim of the project is to measure effective and efficient performance against published criteria as a condition for awarding continuation grants and providing technical assistance. Some of the specific indicators related to prevention include immunizations, prenatal care, family planning, counseling for adolescents, and anemia screening. Projects not meeting the objectives established for productivity and effectiveness must develop corrective action plans to bring their performance up to the established standards or suffer the risk of reduction in Federal funds.

Accident Prevention and Injury Control in Children. Demonstration projects to decrease preventable disability and death from injuries and accidents in childhood are well under way in Virginia, California and Massachusetts under the auspices of Title V (State Maternal Child Health and CCS programs). Data collection and analyses have been completed. The data were used to identify those children who are most likely to suffer accidents and to develop specific approaches to controlling injuries to such children. Appropriate targeted intervention efforts have been initiated. Plans for a national evaluation have been completed; they include a methodology for disseminating the results of the demonstrations to other State maternal and child health programs.

Lead-Based Paint Poisoning Prevention. A collaborative effort related to the prevention and treatment of lead-based paint poisoning was conducted in three States with support from the Office of Maternal and Child Health (OMCH), the Health Care Financing Administration, the Centers for Disease Control, and the U.S. Department of Agriculture. Activities range from screening, training of private and public practitioners in the utilization of new technology and development of a computerized monitoring system to the tracking of children to assure appropriate follow-up care and treatment.

Improving Pregnancy Outcome. Special project funds have been awarded to MCH programs in 34 State Health Departments, to augment their efforts to improve maternal and infant health. Major activities started by the States through these special projects include initiating and expanding prenatal, delivery, postpartum and infant health services in underserved areas; improving quality of care via professional education; developing regional perinatal systems which link hospitals with ambulatory facilities; and improving perinatal data systems for planning and management. Several States have secured governmental and private funds to perpetuate and expand efforts started by the improved pregnancy outcome projects.

Genetic Diseases Services. During 1981, there were 41 areawide genetic diseases services grants awarded to provide education, testing and counseling services in 39 States plus the District of Columbia and Puerto Rico. The areawide genetics service projects screen newborns, perform carrier tests, offer counseling services, and provide education and information for groups and individuals. The National Clearinghouse for Human Genetic Diseases has completed its third year of operation reaching thousands of providers and consumers across the Nation with current information about genetic disorders.

Promotion of Breast Feeding. In partnership with State and local health agencies, the OMCH continued to promote and encourage breast feeding. *Prenatal Care*, a government "best-seller" for expectant parents, is being revised to include the most current information about breast feeding. The BCHS publication *Breast Feeding* has been widely disseminated to consumers, agencies and organizations; plates were made available to USDA and State health agencies so that they could reprint quantities for use with their clients. A resource packet developed by OMCH and USDA for nutrition educators, *Reaching Out to the Pregnant Teenager*, contains information for care providers on breast-feeding. Information on human lactation and its benefits was also provided to hundreds of physicians, nurses and nutritionists participating in training programs supported by Title V/MCH funds in maternal nutrition, infant nutrition and nutrition of newborns in intensive care.

Family Planning Media Projects. Media projects including four public service announcements were run in 1981 by the Office of Family Planning, BCHS, to motivate adolescents to think and act responsibly about sex, and to promote communication between parents and their children about human growth and development, reproduction, and responsible decision making. Data have been collected on station use, estimated audience, and the number of write-ins received by the National Clearinghouse for Family Planning Information.

Primary Care Research and Demonstration Projects. The Office of Rural Health has sponsored a series of projects emphasizing health education and the development of self-care skills to reduce risks and

promote prevention activities among individuals ranging from children to the elderly.

Health Promotion Assessment Guide. As a companion to *Promoting Health/Preventing Disease: Objectives for the Nation*, BCHS developed and distributed a guide to help personnel at primary care centers evaluate their health promotion programs and initiate new activities in light of the objectives. As part of their commitment to improving the health of the community, ambulatory care centers are in a unique position to assess, plan, and implement local activities to encourage healthy behaviors. The guide provides ideas about new approaches to health promotion as well as references to national and local resources.

Bureau of Health Personnel Development and Service (BHPDS)

The Bureau of Health Personnel Development and Service (BHPDS) serves as a national focal point for activities designed to redistribute health care professionals into health manpower shortage areas. BHPDS programs, such as the National Health Service Corps, increase the availability and placement of health professionals in medically underserved areas. The Bureau directs health professions scholarship and student assistance and training programs, administers programs which provide direct health services in health manpower shortage areas and provides national leadership in the development of assignments and professional productivity standards to improve quality of care. These programs are coordinated with health service delivery programs administered by other organizations in the Public Health Service. The BHPDS makes an important contribution to the prevention of disease and improved health status of the general population through its efforts to assure accessibility to health care in underserved areas and facilitate the integration of health care providers into the overall health delivery system.

Bureau of Medical Services (BMS)

BMS arranges medical care for certain designated members of the uniformed services, including the PHS Commissioned Corps. The Bureau includes among its goals the identification of beneficiaries at high risk to permit efficient planning of preventive health care. It operates the National Hansen's Disease Center (NHDC) and administers the medical programs of the U.S. Coast Guard, and the National Oceanic and Atmospheric Administration, and the Federal Bureau of Prisons and provides occupational health care and safety services to Federal employees through the Division of Federal Employee Occupational Health.

BMS Prevention Highlights

Employee Health Hazards. The BMS provides continued assistance to Federal agencies in identifying environmental problems that cause employee illnesses. In FY 1981, FEOH conducted studies of such employee complaints as liver dysfunction, cardiovascular problems, respiratory illness, dermatitis, loss of hearing, and workplace allergies. FEOH provides the services of a health professional who serves as a consultant to project officers and as principal investigator for various Federal agencies in conducting epidemiological studies involving workplace exposure.

Federal Employee Health Promotion Activities. Health promotion activities have always been an integral part of FEOH programs. Health fairs sponsored by FEOH health units reached more than 100,000 Federal employees. The health units work with community agencies to provide health promotion and disease prevention information on a variety of topics such as nutrition, exercise, hypertension, drug abuse, and smoking cessation. Testing for hearing loss, high blood pressure, oral cancer, glaucoma and other diseases also are offered. The FEOH Employee Counseling Service Program (ECSP) provides consultant and advisory services to Federal agency managers for the planning of programs to assist employees in the prevention and treatment of alcohol and drug abuse. ECSP also provides information, crisis intervention, short-term counseling, appropriate referral and followup to established community resources and facilities for treatment and rehabilitative care of Federal employees who seek assistance. The four ECSP locations have provided services to 28,000 Federal employees.

Hansen's Disease Program. The purpose of the Hansen's disease (HD) program is to prevent transmission of Hansen's disease (leprosy) and the development of complications in patients who have the disease through early and comprehensive treatment and screening of contacts. The Center conducts training courses for physicians from all over the world to teach them about early detection, management, and prevention of complications from HD. The HD program maintains close liaison with State and county health departments and with CDC to control the spread of this infectious disease.

Uniformed Services. Plans for FY 1983 health education and health promotion activities for the BMS uniformed services beneficiaries are currently being developed.

Indian Health Service (IHS)

The Indian Health Service aims to elevate the health of Native Americans to the highest possible level and to provide these citizens with opportunities for defining and meeting their own health needs. The IHS operates a comprehensive health services system that provides health care for over 750,000 American Indians and Alaskan Natives through a network of 48 hospitals, 98 health centers, and more than 300 health stations and locations. The IHS emphasizes prevention through research, dissemination of information, and delivery of preventive services.

IHS Prevention Highlights

Office of Alcoholism Programs. Alcoholism and alcohol abuse are major socioeconomic health problems facing the American Indian and Alaskan Natives. As a result, Title II of the Indian Health Care Improvement Act requires the IHS to assume responsibility from the National Institute on Alcohol Abuse and Alcoholism for support of American Indian and Alaskan Native alcoholism programs. The IHS Office of Alcoholism Programs is the responsible unit. Since FY 1978, 139 alcoholism programs totalling $16.9 million have been transferred to IHS. Of the 275 recognized tribes eligible for health care services, it is estimated that at least 175 are receiving services along with 34 urban communities.

Immunization Initiative. In accordance with the overall departmental immunization initiative, the IHS objective for immunization is to fully immunize 90 percent of Indian children under 27 months of age against diphtheria, tetanus, pertussis, polio, measles, mumps, and rubella. At the beginning of the IHS immunization initiative, the immunization level (total number appropriate for age) was 60.8 percent. By June 30, 1981, the immunization level (total number appropriate for age) was 82 percent.

Nutrition. At least 50 percent of the American Indian and Alaska Native patients in maternal and child health clinics present symptoms of malnutrition, particularly anemia, low zinc and vitamin A levels, obesity, and underweight. In the population as a whole, diabetes and obesity rank as the outstanding nutrition problems. Alcoholism is a major health problem concomitant with malnutrition. Ten percent of the Indian population are elderly and are facing the problems of limited income and restricted mobility, which affect their nutritional status. Efforts to address these problems include the following: funding of 30 State Indian agencies through the Women, Infant, and Children's program (WIC) to provide services to over 18,000 participants; development of maternal and child health modules at the Nutrition and Dietetics Training Center for use by tribal personnel employed in nutrition programs; obesity modules field tested in 12 related sites, and input into the Diabetes Initiatives.

National Institutes of Health (NIH)

The National Institutes of Health (NIH) administer a comprehensive research program to improve the health of the American public through acquisition of new knowledge of disease. A federation of organizations containing 11 Institutes of Health, each with its own medical focus, NIH includes other entities within its structure: the Division of Research Resources, the National Library of Medicine, the Clinical Center (a hospital research unit), the Fogarty International Center, and several administrative support divisions. In conjunction with the Secretary's Health Promotion Initiative, the Director of NIH has moved to enlarge the research program at NIH related to disease prevention. A Special Assistant to the Director for Research Related to Disease Prevention was appointed in October 1981 to work closely with the various institutes and the NIH Coordinator for Disease Prevention and Health Promotion, and to develop a new prevention research

focus for NIH. NIH prevention activities are discussed by NIH component, in order of their dates of establishment.

National Cancer Institute (NCI)

The National Cancer Institute is the central coordinating agency for the national research effort against cancer. It funds and conducts scientific research and the training of scientists and makes cancer information available to scientists and to the general public. The NCI prevention initiative has three principal objectives: developing substances that interfere with the process of cancer formation, identifying cancer-causing substances and behavior, and educating the public to minimize their exposure to such substances.

NCI Prevention Highlights

Family Studies. Family studies, enhanced by the development of a computer-based data resource, resulted in the delineation of family cancer syndromes and mechanisms of host susceptibility. Of special interest was the identification of the dysplastic nevus syndrome as a specific marker of susceptibility to melanoma. Recognition and proper management of these moles enables the primary prevention of melanoma and the diagnosis of this potentially lethal cancer at a stage when it is readily curable. Educational videotapes were developed to acquaint high-risk patients and health professionals with the specifics of dysplastic nevi and the opportunities for prevention and early detection of melanoma. In addition, studies of neurofibromatosis have helped to clarify the risks of various cancers associated with a hereditary syndrome that has received widespread public attention in recent times.

Chemoprevention. Studies indicate that retinoids, the set of molecules comprising vitamin A and its synthetic analogues, may prevent the development of some forms of cancer. One drawback to the widespread use of retinoids has always been their toxic side effects. However, NCI has made progress recently in the development of new agents that are less toxic and can be more accurately directed to specific organ sites, such as the lung, bladder, or breast. Their increased potency results from alteration of the pattern of tissue distribution of the retinoid molecule. Current activities include two clinical trials, one to evaluate the use of topical retinoids in the prevention of cervical cancer and a second to test the efficacy of an oral form of retinoic acid in reducing the incidence of skin cancer. Another prospective controlled chemoprevention trial is testing the efficacy of B-carotene in reducing the incidence of cancer of all types. The test group in this study will be approximately 20,000 physicians.

Tobacco and Health. Smoking education programs, smoking cessation programs, and studies on changes in smoking preference are being conducted by the NCI. Success in reducing the incidence of smoking has been achieved in many groups involved in these programs. In those who have not quit smoking, changes in smoker preference for filtered low tar, low nicotine (LTLN) cigarettes may lead to a lessened risk of lung cancer as compared with high tar, high nicotine cigarettes. Recent studies have indicated that chewing tobacco and snuff dipping increase the risk of oral cancer. The use of smokeless tobacco has become popular with young people throughout this country as a consequence of advertising campaigns. Prevention efforts will be directed at using media programs, youth prevention programs, and other educational programs.

Research on Carcinogens Working in Tandem. The development of cancer can be potentiated or inhibited by exposure to several chemical or physical agents either at the same or at different times. Examples of potentiation include asbestos and smoking for lung cancer, and smoking and drinking for cancer of the oral cavity, pharynx, larynx, and esophagus. Laboratory studies using a combination of various carcinogens or by exposing cells to x-rays and then to chemical carcinogens are being conducted to further define the processes of initiation and potentiation by such carcinogens working in tandem. Instances of inhibition are presently limited to animal experiments, for example, polycyclic hydrocarbons have been found to inhibit azo-dye carcinogens in animal systems.

Nutrition and Cancer. General dietary patterns, nutritional status, specific foods and food groups, and food additives are being recognized as possible causes of cancer. It is necessary to test and quantify in human populations those hypotheses about the role of diet in carcinogenesis that have resulted from animal studies, *in vitro* experiments, and clinical observations. Nutritional epidemiology can also reveal broad correlations between dietary patterns and cancer, which then serve as the basis for further laboratory research and further analytic epidemiology. Certain diets and foods seem able to initiate carcinogenesis, others seem able to promote it, while still others seem able to reduce cancer risk. Their mechanism of action can be direct through interaction with DNA, or in-

direct through alteration of metabolic pathways or cell regulation, or even more indirect through modification of the endocrine or immune systems. Further research on diet and cancer, in which both epidemiology and laboratory science must cooperate, could yield insights into these mechanisms and the biology of carcinogenesis.

Data from epidemiologic and animal studies are also needed to define the roles of fat and fiber in causing cancer. For example, it is not currently understood how specific changes in the intake of fat and fiber might contribute to prevention of cancer. In addition to looking at fat and fiber, investigations are underway concerning the effects of such factors as total caloric balance, vitamins and provitamins (specifically A, C, and E), minerals (especially selenium and zinc), and naturally occurring compounds such as aflatoxin and other mutagens found in foods in enhancing or inhibiting carcinogenesis. Some evidence is also mounting that various methods used to cook foods produce compounds which might be mutagenic. The NCI is currently assessing methods of food preparation and the resultant mutagens for their potential ability to cause cancer as well as factors in the diet that may prevent the development of cancer.

Research on Biological Response Modifiers. Currently there is a high level of interest in biological response modifiers—a group of substances that can alter the development and progression of cancer, the best known of which is interferon. Several clinical trials were started with different types of interferon during this past year. Other new modifiers, such as lymphokines and tumor-specific hybridomas, will be examined in the future in controlled clinical trials.

National Heart, Lung, and Blood Institute (NHLBI)

The National Heart, Lung, and Blood Institute is the central coordinating agency for diseases of the heart, lungs, and blood. It supports research and professional training in these areas, and provides educational programs for laypersons and health care personnel.

NHLBI Prevention Highlights

Bethesda Conference on the Role of the Physician. In conjunction with the American College of Cardiology, the American Heart Association, and the Centers for Disease Control, the National Heart, Lung, and Blood Institute co-sponsored a major conference on the role of the physician in preventing cardiovascular diseases. Proceedings of the conference were published in the March 1981 issue of the *American Journal of Cardiology*. The position of the conference, which included representatives from scores of medical and public health organizations, was that physicians should play a more active role in helping to persuade patients and the general public to reduce cardiovascular risk factors. A working group, including NHLBI representation, is actively developing plans to implement many of the conference recommendations.

Leveraging Private Sector Resources for Disease Prevention/Health Promotion. Progress is being made in the ongoing attempts to persuade industry and the media to initiate disease prevention/health promotion activities. Particular advances have been made in collaborating with insurance companies to adopt high blood pressure screening and followup programs, not only for their employees but for their group subscribers as well. Negotiations with the insurance industry to give more aggressive attention to reduced premiums for companies with worksite high blood pressure control programs is also progressing.

Alternate Utilization of Television for Educational Messages. An innovative television program tool developed by NHLBI to give indepth treatment to the topic of high blood pressure met with considerable success during 1981. Called the TV Module, the program is comprised of prepared script and film segments for a half-hour television special on high blood pressure. The program was prepared for local non-network television stations, which often do not have the resources, talent and contacts to easily produce a special program on a health topic. The benefit to the Institute is to have a comprehensive, prepared message conveyed to a number of large audiences. The program was tested in five cities and is now in considerable demand by scores of television stations around the country.

Clinical Trial on the Prevention of Neonatal Respiratory Distress Syndrome. Preliminary results of a major clinical study on neonatal respiratory distress syndrome (RDS) indicate that a synthetic steroid drug called dexamethasone can prevent RDS in newborn infants under certain conditions when administered to mothers who are at high risk of premature delivery. Infants born prematurely are more likely to suffer from RDS because their lungs have not developed sufficiently to meet their oxygen needs at birth. Up to 60 percent of premature infants have RDS, and as many as 10,000 deaths among live-born infants are attributed to RDS each year. Although the potential usefulness

of dexamethasone in this application is limited by such factors as sex of the child, ethnicity and multiple birth, research continues on the long-term effects of using steroids for both mother and infant. It is encouraging that this form of therapy has the potential to prevent at least 15,000 cases of RDS (based on female infants alone) and thus save over $200 million for neonatal intensive care per year.

Prevention of Transfusion-Transmitted Hepatitis. The spread of hepatitis through blood transfusions is a major public health problem in the United States. Every year, nearly 150,000 people contract hepatitis following transfusion; 90 percent of such cases are non-A, non-B hepatitis. A laboratory test to detect non-A, non-B hepatitis among donors has yet to be developed. However, the results of a 6-year study on transfusion-transmitted viruses (TTV Study) indicate that units of blood containing high levels of the enzyme alanine transferase (ALT) may pose an increased threat of transmission of non-A, non-B hepatitis to the recipients. Only about 3 percent of donor blood is high ALT (levels above 45 International Units); however, transfusions of high-ALT blood were associated with 40 percent of the hepatitis cases observed among the 1,513 patients receiving one or more transfusions in the study. Though most patients (63 percent) who received high-ALT blood did not develop hepatitis, and some patients who had not received high-ALT blood did develop the disease, the study findings suggest that routine testing donor blood for ALT levels may be a step toward reducing the incidence of transfusion-transmitted non-A, non-B hepatitis.

National Institute of Allergy and Infectious Disease (NIAID)

NIAID conducts and supports research contributing to a better understanding of the cause of allergic, immunologic, and infectious diseases and the processes involved in the transmission and development of the diseases. The ultimate goal is the development of better means of prevention, diagnosis and treatment. As new opportunities for practical prevention of disease are identified, development of techniques is planned and initiated. In much of its prevention research, particularly that on vaccines, the Institute has extensive collaboration with other Federal agencies, research organizations in other countries, and, on occasion, with industry.

NIAID Prevention Highlights

Bacterial and Viral Vaccines. Research is supported that directly focuses on the development and feasibility testing of new or improved vaccines against bacterial and viral infections. Recent developments include the successful growth in tissue culture (the first step toward making a vaccine) of Type 2 Rotavirus and the testing of a varicella vaccine of potential benefit to children with leukemia and other diseases. Significant advances have been made with hepatitis B vaccines in adult populations and techniques are under study to prevent neonatal hepatitis B, which will in turn lead to prevention of the chronic carrier state, progressive hepatitis, and eventual cancer of the liver. Vaccines for gonorrhea are under study in human subjects; successful vaccines against this prevalent sexually transmitted disease are designed to prevent the disease and its related complications of pelvic inflammatory disease, sterility, and fetal death. The NIAID has described an initiative for the accelerated development of new vaccines, based on the new capabilities provided by the recently developed recombinant DNA and hybridoma technologies plus a greater understanding of the factors controlling infections. The plan envisions identifying a few candidate vaccines where intensive research may enable rapid development through the stage of demonstrated clinical efficacy.

Research on Allergic Diseases. Development of a clinical allergic disease state requires primary exposure to the inciting cause (allergen) which may be a specific airborne pollen, fungus spores, insect venom, drug, or other substance in a domestic or work environment. Subsequent exposure to the allergen triggers a series of events that results in disease. At least four prevention strategies are possible: avoidance, drug administration, desensitization, and other immune system manipulation. Of these, only the first three are currently being used, but all four are the subjects of considerable research effort supported by NIAID. The Institute has fostered the development and funding of a network of 17 Asthma and Allergic Diseases Centers. In addition, NIAID supports research relevant to the prevention of allergic disease, including the identification of specific materials responsible for allergic disease, characteristics of individuals or situations predisposing to allergy, description of the biological or chemical processes that lead to symptoms, and modification or interruption of the processes by biological or drug intervention.

National Institute of Dental Research (NIDR)

To improve the oral health of Americans, the National Institute of Dental Research conducts, fosters, and coordinates research into the causes, prevention, diagnosis and treatment of oral disease and conditions. The Institute supports investigator-initiated research grants, research training, intramural projects, and contract research and development. In 1971, the National Caries Program was established to focus priority support on the development of preventive technologies to combat the major cause of tooth loss among children, a disease that afflicts more than 90 percent of Americans during their lifetimes.

NIDR Prevention Highlights

Media Projects Caries Prevention. Presently known preventive measures can provide significant protection against the ravages of tooth decay among children. Nevertheless, a large portion of the public remains unaware that the use of fluorides can bring about improved dental health. The National Caries Program of the NIDR has initiated a vigorous health education activity using exhibits, leaflets and film to inform both the general public and health professionals about effective prevention of dental caries through water fluoridation and through other methods of fluoride application. Well over 200,000 copies of the posters and leaflets have been distributed. The audience for the film "Reading, Writing, and Rinsing," which continues to be used on television, was estimated at 11 million in 1980.

National Dental Caries Prevalence Survey. An analysis of the National Dental Caries Prevalence Survey was completed in 1981. This survey was to establish current disease levels of school-aged children and serve as a baseline for future surveys. The survey design allows follow-up surveys to detect changes in caries experiences by region; monitor changes produced by the implementation of new caries preventive measures; and target preventive research strategies for high-risk age groups. Preliminary findings show that dental caries prevalence in school-aged children has decreased approximately 30 percent since the National Center for Health Statistics survey in 1971–1973. These results correspond to findings of several American and European investigations based on small local samples.

Controlled-Release Delivery Techniques for Fluoride Compounds. Substantial progress has been made in the development of a device for the continuous slow release of fluoride at therapeutic levels in the mouth. Results of short-term clinical trials suggest that caries-preventive levels of fluoride can be maintained in the mouth for extended periods of time. The National Caries Program is currently making plans for commencing longer clinical trials.

Cariogenicity Testing of Food Products. Results of investigations on the cariogenic potential of a variety of food products have shown that the relative cariogenicity of a food cannot be assessed simply on the basis of sugar concentration. All foods tested that contained sugar were to some degree cariogenic; however, other ingredients added to foods can influence their decay-causing potential by either retarding or enhancing the effect of sugar. Furthermore, an important finding of this study and previous supported research is that the frequency of eating sugars, not just the amount consumed, affects how much decay occurs. A variation of the same test method has shown that some foods, such as cheese, may actually inhibit the decay process. The possible mechanisms involved in this latter finding are currently being investigated.

National Institute of Neurological and Communicative Disorders and Stroke (NINCDS)

NINCDS conducts and funds prevention research to understand the normal functions of the nervous system and sensory organs and the altered mechanisms that cause neurological and communicative disorders. The overall goal is to discover ways to intercept, as early as possible, the development of the causative processes that engender pathology, thereby decreasing the number of people to be afflicted with these diseases, which are predominantly very chronic and hard to diagnose, and which as yet have no known cure. It is not surprising that NINCDS research has a priority focus on the prevention of their onset.

NINCDS Prevention Highlights

Positron Emission Tomography (PET) A new research technique is being used for *in vivo* study of cerebral circulation and cerebral metabolism, to correlate metabolic alteration with structural changes. Such studies would reveal fundamental information on the very early stages in deviation from normalcy or the development of pathology in such conditions as cerebrovascular ischemia, vascular malformation, cerebral tumors, multiple

sclerosis, Huntington's disease, dementia, stroke, and migraine.

Stroke. NINCDS is studying the nature of stroke and its cause. The development of screening procedures to identify persons at risk due to such factors as high blood pressure, heart disease, family history, age, obesity, diabetes and sedentary life is an important component of this research program. Appropriate risk-relevant intervention measures to prevent either the transient ischemic attack (TIA) or the first regular stroke, in order to forestall brain injury, are also being studied.

Inborn Errors of Metabolism. There are over 600 genetic diseases in which the nervous system is implicated. In several dozen inherited disorders excessive substances appear which cause cell damage and can lead to severe mental retardation. Individuals with these diseases have been found to be missing certain enzymes which are needed for the normal disposal of these accumulating substances. NINCDS conducts research on genetic mechanisms and enzymatic studies in order to enable early detection of these disorders. Studies are also being conducted to identify carriers of these diseases. The results of such research programs should aid in the development and introduction of early intervention measures to correct the deficiency and to prevent, deter or reduce pathological sequelae.

Disorders of Hearing. Hearing impairment is a problem which occurs at all ages; its diagnosis, treatment, and rehabilitation are expensive. NINCDS is presently conducting studies on the developing otocyst, the biochemistry of inner ear fluids, genetic counseling in familial hearing disorders, inner ear damage from noise, and the effects of ototoxicity. The intent is to understand the underlying anatomical, physiological, and biochemical aspects of hearing impairment so as to monitor and intercept the onset of pathology in this important function of human communication. In addition, recent studies have demonstrated the usefulness of microsurgical techniques in the treatment of selected cases of middle ear infection in order to preserve hearing or prevent the occurrence of hearing loss.

Post-Traumatic Epilepsy. Epilepsy, a chronic brain disorder characterized by recurrent seizures, affects more than 2 million Americans. In most instances its cause is unknown. Accidents are often a cause of head injury which, if severe enough and not treated properly, can lead to epilepsy. Pilot clinical trials of two drugs, phenytoin and phenobarbital, have demonstrated that prompt treatment with antiepileptic drugs will prevent the post-traumatic occurrance of seizures.

Neurotoxicity. The Institute supports intensive research on the mechanisms of toxin-induced changes in the nervous system. Research on the control of neurotoxicity, resulting from prenatal and adult exposure to heavy metals and other industrial chemicals, focuses on discovering the indicators of adverse effects and developing interventions which can prevent occupational and environmental exposure to lead, cadmium, manganese, and organic neurotoxicants. Specific screening and detection programs are being explored as well.

Immunization. NINCDS is also conducting fundamental research that has as its ultimate goal the development of certain vaccines that would prevent diseases caused by neurotropic viruses, such as herpes and varicella.

National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases (NIADDK)

The NIADDK is responsible for a wide variety of research on disease related to arthritis, musculoskeletal structures, skin, diabetes, the endocrine system, metabolism, the digestive tract, nutrition, the kidneys and urinary tract, and blood. The work of the Institute is concerned with many diseases for which causes are unknown or not positively identified, and consequently its prevention efforts are focused on basic research, disease causation, and pathophysiology.

NIADDK Prevention Highlights

Chronic Degenerative Changes in the Tissues of Persons with Diabetes Mellitus. Although treatment with special diet, exercise, insulin, and other medications has extended the average life expectancy and improved the quality of life of the patient with diabetes, such treatment has not prevented the development of the tissue-damaging aspects of the disease: heart attacks, strokes, kidney failure, gangrene, blindness, and damage to the nervous system. Most of the morbidity, mortality, and economic cost associated with diabetes is due to these degenerative tissue changes. There is a long-standing, unresolved controversy over whether strict and precise control of blood glucose levels in persons with diabetes will prevent these life-threatening degenerative changes. During the past few years, new technologies have been developed which permit, for the first time, a study to assess whether "tight" metabolic control will prevent the diabetic complications. These technologies in-

clude: programmable, automated devices for delivery of insulin, the institution of home monitoring of blood glucose concentration, both of which permit better metabolic regulation of diabetes than heretofore possible, and the development of new techniques for photography of the retina of the eye. As a result of these advances, the NIADDK has now initiated a collaborative clinical trial on the relationship between blood glucose control and the vascular complications of diabetes mellitus.

Relationship Between Diabetes Mellitus and Obesity, Diet, and Exercise. Most individuals with non-insulin dependent diabetes are overweight and physically underactive. Evidence suggests that attainment of optimal body weight, adherence to sound diets, and regular physical exercise will reduce the metabolic abnormalities and clinical symptoms in patients with this type of diabetes. The NIADDK diabetes program supports a broad range of research to define the relationship between body weight, exercise, and diabetes, and to determine whether life-long maintenance of normal body weight and physical fitness can prevent the development of non-insulin dependent diabetes.

Short Stature To date, the Institute has been the main provider and distributor in the United States of human growth hormone for the treatment of children with hypopituitary dwarfism. Such children do not produce enough growth hormone of their own, and to attain normal stature they must receive supplemental hormone by injection. The provision of growth hormone and the research on hypopituitary dwarfism that NIADDK has supported have prevented, and continue to prevent, dwarfism in many thousands of children with this inherited condition. The Institute has also supported research that has better identified those normal-variant short stature children who will benefit from treatment with human growth hormone. In the future, this prevention initiative will be enhanced by the production of synthetic human growth hormone, which is now possible with the use of recombinant DNA methods.

Osteoporosis. This is the most common bone disease, affecting approximately 16 million people over the age of 50 years. In osteoporosis there is an accentuation of loss of bone with age, predisposing older individuals to fractures of the hip, spine, and wrists even under minor mechanical stress. Although recent studies supported by NIADDK suggest that some degree of bone regeneration may be achieved by the use of certain hormones and drugs, preventive techniques will be the most effective means of dealing with this bone loss disorder and its consequent fractures. Studies in progress are developing evidence that low-dose estrogen administration and maintenance of adequate calcium intake (1 gram per day) from age 40 years on will significantly and appropriately suppress bone resorption.

Nephrotoxins. NIADDK recently cosponsored a conference on nephrotoxic mechanisms of drugs and the environment, where new data were presented which showed that long-term, heavy use (medically not indicated or prescribed) of analgesic drugs is responsible for a measurable portion of patients with chronic kidney failure. Efforts are now under way to make physicians more aware of this, so that development of kidney failure due to analgesic abuse can be prevented in the future.

Nutrition—Recommended Dietary Allowances. NIADDK supports the work of the Food and Nutrition Board of the National Research Council. The Board, drawing upon experts from a variety of nutritional disciplines, establishes national standards for human dietary requirements—the Recommended Dietary Allowances (RDA). Adherence to these guidelines provides the amount of nutrients and calories adequate to nourish most healthy individuals in the United States. The RDAs are updated every 5 years; the most recent revision was released in 1980.

National Institute of Child Health and Human Development (NICHD)

Many health problems that afflict adults originate before birth or in childhood. Thus, the early stages of life offer exceptional opportunities to prevent diseases, disorders, and social and psychological handicaps that can affect people at any time in their lives. This concept underlies the mission of the NICHD: to develop new knowledge on early opportunities to prevent disease and disability, and thereby to ensure for all children the opportunity for a healthful and productive adulthood. The Institute emphasizes primary prevention through studies on ways to intervene before the biological onset of disease or emergence of behavioral problems. In those areas where basic knowledge is insufficient to allow intervention before a problem occurs, the Institute emphasizes research on knowledge that can be applied at the earliest stages of a disease or disorder.

NICHD Prevention Highlights

Management of Diabetic Pregnancies. Research supported by NICHD has contributed to under-

standing the physiology and metabolism of diabetic pregnancies and to the improvement in management of these pregnancies. It has shown that insulin treatment and vigorous control of blood sugar levels in the diabetic mother and better monitoring of the fetus reduce most of the complications of pregnancy to rates comparable to those of non-diabetic pregnancies. The high incidence of congenital malformations, however, has not diminished with improved treatment methods. This may reflect the failure to normalize the mother's metabolism during the early weeks of pregnancy or even prior to pregnancy. NICHD is supporting a collaborative study which addresses this question.

Consensus Development Conference on Cesarean Childbirth. The NICHD sponsored a national conference to examine the reasons for the tripling of the rate of cesarean delivery in the United States in the 1970's. The conference brought together medical specialists, researchers, social scientists and consumers to evaluate situations in which cesarean delivery improves pregnancy outcome by preventing such problems as cerebral palsy and birth injury. The consensus statement identifies circumstances in which cesarean delivery is of clear benefit as well as recommends ways to prevent unnecessary cesarean delivery. Recommendations for preventing adverse psychological effects of cesarean delivery on families are also presented. Copies of the consensus statement have been distributed widely, including copies to most of the obstetricians in the United States.

Prevention and Control of Obesity. In FY 1981, the NICHD continued to expand support of studies on the behavioral and cultural aspects of nutrition. Of particular importance are research projects designed to improve poor eating habits, encourage balanced diets, and promote healthy lifestyles. A major focus is on new concepts underlying the development of obesity, particularly childhood antecedents of adult obesity. One study indicates that family environment may be even more important than genetics in predisposing children to obesity. Research will now be designed to determine which factors in the family environment promote obesity. Another study has identified a set of characteristics that predicts successful adherence to a program of dietary behavioral modification and, conversely, another set of characteristics for those obese subjects whose eating behavior will not be modified successfully by a program of behavioral modification. In order to develop successful preventive strategies in regard to weight control, a more detailed understanding of the neurological mechanisms that regulate food-seeking behavior and food intake is needed. NICHD in FY 1981 initiated several basic research projects on the cerebral origins of the hunger drive and the central control of food intake.

Health Behavior and Prevention. The Institute sponsors health-behavior research designed to understand both how positive health-related behaviors develop in children and how behaviors harmful to health are initiated and can be prevented. Two types of basic studies are being supported: those that investigate behaviors associated with health risks and those that elucidate how concepts of good health are developed. Other Institute-supported studies are focusing upon the role of parent-child interaction in the realm of health behavior acquisition. Such research can provide the theoretical and empirical bases for health promotion programs among children.

Prevention of Birth Defects. During FY 1982, NICHD has continued to encourage research directed at the prevention of birth defects, with special emphasis on limb malformations and developmental abnormalities in the immune system. In the case of limb malformations, NICHD research focuses on clinical problems in addition to basic genetic and developmental biological approaches. These investigations should yield information on the etiologies, including biochemical deficiencies, underlying limb malformations. NICHD also supports studies of normal and abnormal development of the immune system during pregnancy and in the neonatal period. Results of these studies are expected to yield insights into the prevention of fetal and newborn sepsis, congenital defects and other developmental disorders.

Relationship Between Oral Contraceptives and Heart Attacks. Long-term, past oral contraceptive use has been found to be associated with increased risk of myocardial infarction and stroke especially for women who take oral contraceptives, are over 35 years of age, and who smoke. It now appears that some oral contraceptive formulations may accelerate the process of thrombosis and/or atherogenesis, possibly by altering blood coagulation mechanisms and/or lipoprotein patterns. A prospective study has been initiated to investigate this issue.

National Eye Institute (NEI)

The goal of NEI is to work toward the elimination of the major causes of blindness and visual disability. The Institute supports research on the functioning of the visual system, the pathology of vis-

ual disorders, and the sciences supporting vision research. It also sponsors research on the prevention and treatment of visual disorders, fosters studies of the rehabilitation of the visually handicapped, and encourages clinical application of research findings. Moreover, NEI aims to heighten public awareness of vision problems through information programs and cooperates in health campaigns and other projects sponsored by volunteer organizations with similar concerns.

NEI Prevention Highlights

Prevention of Hereditary and Developmental Degenerations of the Retina. Each year many people, including young children, become severely visually impaired or blind as a consequence of hereditary retinal degenerations. One of the most common inherited disorders causing blindness in humans is retinitis pigmentosa, in which rod cells in the periphery of the retina degenerate. The cause of retinitis pigmentosa is unknown, but another inherited retinal disorder, gyrate atrophy, is characterized by high plasma and urine levels of the amino acid ornithine. An enzyme defect has recently been discovered in gyrate atrophy, leading to therapeutic approaches. The NEI is supporting studies to understand better this inborn error in metabolism. The determination that the defect in gyrate atrophy is enzymatic is an important finding and raises hope that similar defects can be determined and corrected in other such inherited degenerative eye disorders.

Prevention of Retinal Vascular Diseases. Retinal and choroidal vascular diseases impair retinal function by damaging the blood vessels and obstructing blood flow in these tissues. One of the leading causes of blindness from retinal vascular disease is diabetic retinopathy. The NEI is sponsoring basic research on the breakdown in retinal blood vessels, blood flow, the disruption of the blood-retinal barrier, and scar tissue formation that occurs in diabetes mellitus. Various techniques are being developed to permit early diagnosis of the subtle changes associated with early diabetic retinopathy, and new treatments such as laser therapy are being assessed. Premature infants whose lives are maintained in a high oxygen environment can be victims of retrolental fibroplasia (RLF) if oxygen is administered to them for extended periods in high doses. Current studies are aimed at determining the appropriate amount of oxygen to be administered to premature infants, better understanding of the role of oxygen in RLF, developing methods to monitor oxygen levels in the nursery, and finding means of altering blood vessel susceptibility of oxygen. Vitamin E is an important part of the body's defense against damage, and evidence indicates that it can have a protective effect on the development of retinopathy in infants.

Prevention of Branch Vein Occlusion. An occlusion of a branch of a retinal vessel can occur as a complication of such diseases as hypertension and atherosclerosis causing eye damage. The NEI is funding basic research on the effects of alterations of dietary cholesterol levels on the retinal vessels. Both the natural history of branch vein occlusion and the effectiveness of argon laser photocoagulation treatment are being studied in a controlled multicenter clinical trial. The study is also trying to determine if this treatment prevents new abnormal blood vessel growth, bleeding into the eye, retinal detachment, loss of visual acuity or macular swelling.

Immune Mechanisms Underlying Infections and Inflammations. Although infections and inflammatory diseases of the cornea are a major cause of blindness in the world, basic mechanisms involved in these disorders are still unclear. The NEI is sponsoring research on the development of animal models for acquiring this data as well as basic information on human immunologic diseases. In recognition of the critical need for better understanding of immunologic and inflammatory mechanisms, the NEI sponsored a series of three workshops on immunology of the eye in FY 1980. Immunologists and vision researchers identified areas in critical need of more data and suggested future avenues of investigation on these topics. Publications and dissemination of the workshops' proceedings have stimulated the submission of grant applications for research in ocular immunology, and several have been funded to date.

Prevention of Recurrent Corneal Infections from Herpes Simplex Virus. Recurrent corneal infection from herpes simplex virus is a serious and highly prevalent cause of visual impairment and disability in the United States. Its propensity to become latent and then periodically and unpredictably recur make it a difficult clinical problem for patients and ophthalmologists alike. The key to control of the disease is in improved understanding of the pathogenesis of recurrent herpes infections and the development of new antiviral agents. NEI-sponsored research on herpes emphasizes characteristics of the virus and host cell that determine when or whether an infection will occur. If this fundamental relationship can be understood, means of preventing this disease become more likely. NEI-supported studies are under way in animals and patients to test the therapeutic efficacy of new antiviral compounds in preventing recurrence of

ocular herpes infection. Variations on standard methods of administering antiviral compounds are also being investigated.

Basic Research Related to the Prevention of Human Senile Cataract. Cataracts are a leading cause of blindness in the world. No effective non-surgical treatment is yet available for this widespread problem, and no means of preventing cataracts is available. NEI is supporting research on cataract prevention at various levels; from the molecular level to human population studies. NEI-sponsored investigators are trying to understand the basic changes that occur in the ocular lens with age. From an understanding of the effect of the aging process on the human lens may come a method to prevent or arrest senile cataract formation.

Prevention of Diabetic Cataract. In the lens of diabetic laboratory animals, high levels of sugar are converted to alcohol by the enzyme aldose reductase. A significant advance in biomedical research was made with the determination that aldose reductase induces the accumulation of sugar alcohol, causing the formation of diabetic cataracts. Nontoxic aldose reductase inhibitors, which are effective in blocking diabetic cataract formation in animals, have been developed. Such compounds are now being tested for their effect on lens swelling in humans with diabetes. Research in diabetic cataracts has significant clinical importance. In most persons with diabetes, the glucose level is not well regulated and such individuals are subject to the development of early cataracts. Tests are being conducted on the possible link between aldose reductase and the development of other diabetic complications such as diabetic retinopathy and neuropathy.

Prevention of Glaucoma. It has been estimated that 2 million Americans have glaucoma. If not controlled, the elevated intraocular pressure associated with glaucoma may lead to damage of the optic nerve and eventual blindness. Despite the magnitude of the problem, the fundamental details about the disease processes underlying glaucoma remain unknown. The NEI is supporting research to understand better the structures of the eye involved in the regulation of fluid inflow and outflow and intraocular pressure. NEI-sponsored research is also aimed at early detection of individuals with glaucoma, at determining the mechanism of control of intraocular pressure and its alteration in glaucoma, and examining the effects of a variety of drugs on the inflow and outflow of fluid from the eye.

Effects of Visual Deprivation. Over four percent of the population have visual impairment due to disorders of the central visual pathways. Abnormal visual input early in life due to disease or injury can cause profound changes in the development and function of visual centers of the brain. The NEI is supporting research on normal and abnormal visual development. Studies are underway to determine the critical period in visual development during which abnormal visual input will result in inadequate development of the visual pathways and brain visual centers. Investigators are also trying to determine if such abnormalities are reversible with treatment. As more is learned about visual system development, prevention and better treatment of disorders such as amblyopia and strabismus should be possible.

Prevention and/or Control of Eye Diseases Related to Nutritional Deficiencies. Nutritional deficiencies have a major effect on ocular tissues. Each area of the eye relies heavily on proper nutrition. The NEI sponsors research on a variety of nutrient risk factors. NEI-sponsored projects are investigating the effects of vitamin A deficiency on ocular infection and keratomalacia (a leading cause of blindness among children in developing nations), the inhibitory effect of copper on enzyme function in normal lens metabolism and the role of glutathione in maintaining lens clarity. Such studies are seeking to understand the relationship between nutrients and ocular function and determine the implication of nutrient deficiency for the eye.

National Institute of Environmental Health Sciences (NIEHS)

The research activities of the NIEHS, which range from basic research to applied programs, are directed toward developing a better understanding of the relationship between environmental factors and disease. In carrying out its activities, NIEHS focuses on identifying the weak links in disease processes, or the places where these processes may be interrupted; identifying hazardous toxins, chemicals, or agents and assessing their effects on human health; identifying susceptible populations and determining the reasons for their susceptibility; predicting the duration of toxic action, sites of toxic effects, and species differences in chemical toxicity; and detecting injury at the earliest possible stage in the disease process. All these activities, in conjunction with NIEHS manpower training and information services, contribute to the knowledge needed to develop better strategies for disease prevention. For example, once a hazard is identified, it usually is possible to design meth-

ods for reducing risk of exposure to it, or to change a process so that a toxin is no longer produced. Also, once the weak link in a disease process is determined, it may be possible to arrest or decrease the severity of the process by applying therapy or other interventions.

NIEHS Prevention Highlights

Laboratory Monitoring of Human Populations for Genetic Effects. Currently there are a number of important laboratory tests in the research and development stage at NIEHS that have potential utility as indicators of genetic damage in humans. Especially exciting are the tests that promise to give ways of detecting mutagenic damage in easily accessible human tissues or fluids. Work at NIEHS has led to development of techniques that can assay enzyme changes resulting from mutagen exposure in mice, as well as those that use fluorescent antibodies to detect aberrant hemoglobin types or genetic damage to sperm of animals. If further work shows that the latter technique can be applied to humans, then large-scale detection and perhaps quantification of mutagen exposure can be accomplished. Additional studies on liver cell enzymes seem to indicate mutagen damage can be detected here too. At present, NIEHS is attempting to further develop and validate these assays and to run them in a battery on populations at high risk of genetic damage to see how the assays correlate with one another. In the future, NIEHS hopes to provide reliable methods of measuring genetic damage in populations suspected to be at high risk from environmental chemicals so that early corrective actions can be taken.

Early Detection of Heavy Metal Exposure. A recent approach to early detection of heavy metal exposure is the use of radioimmunioassays, which provide a specific and sensitive way to detect and quantify chemicals and drugs in relatively impure mixtures such as body fluids (blood, urine, sweat, saliva). Researchers are applying this approach to the detection of the protein metallothionein, which indicates exposure to the heavy metal cadmium. This assay may allow detection and quantification of cadmium exposure in time to prevent disease from occurring. This approach offers promise for detecting exposure to other pollutants as well, and it could be a major breakthrough in preventing disease from heavy metals. Neurobehavioral tests also offer promise as methods for early detection of heavy metal exposure, as well as for prevention of permanent damage.

Treatment of Heavy Metal Exposure. NIEHS supported researchers are investigating treatment or antidoting to prevent more serious organ damage or to allow reversal of the effects from heavy metal exposure. For example, researchers looking at a large variety of metal-binding and chelating materials, with detailed knowledge of the toxicokinetics of the different forms of mercury, have designed some new "antidotes" (e.g., penicillamine) for this dangerous metal. Studies with nickel toxicity promise success with the early use of metal-binders or chelators. Other research has shown that diet can affect metal toxicity. Too little calcium in the diet can lead to increased adsorption of cadmium from the intestine. There is evidence that essential mineral deficiency can affect other toxic metal adsorption as well. Lead toxicity can be increased 20-fold by malnutrition with respect to calcium and iron. Thus, prevention strategies for heavy metal toxicity must include nutritional components.

Identification of Early Markers of Lung Disease. The lung is a major target organ for environmental agents, and many NIEHS intramural research programs address the question of how to prevent or minimize damage to the lung. Especially important in this regard are pulmonary systems that might serve as markers of early damage, or that are the specific targets of damage so these can be monitored first. Overall pulmonary function tests have not been selective or sensitive enough to detect many kinds of damage in time to prevent serious lung disease. But some new approaches, including the use of pulmonary prostaglandin synthesis as affected by tumor promoters, may be an especially sensitive detector of early lung damage. Antigenic markers found in developing neoplasms in tracheal epithelial cells may prove to be a selective, sensitive, and early detector of serious lung cell damage by chemicals. In addition, these markers can be used in a test system to detect the potential of chemicals to cause these precancerous changes. Either way, this new research offers hope for prevention of a major class of environmental health problems.

Evaluation of Reproductive and Developmental Toxicity. Traditionally, testing for adverse effects of chemicals on reproduction and development is difficult and time-consuming. NIEHS has developed some newer tests that offer much improvement over previous capabilities. For example, a new system has been devised that combines cultured rodent embryos with chemical metabolizing systems, allowing rapid evaluation of many chemicals capable of damaging the embryo. In other re-

search, NIEHS scientists have developed a new method to assess male fertility and the effects of chemicals on this fertility. This method involves using interspecies *in vitro* fertilization to directly test the ability of the male's sperm to fertilize an egg. With the use of this test, it has been possible to predict, with much better accuracy than before, whether a given person has damaged or subfertile sperm. This may prove to be an extremely sensitive test for chemical damage and, if so, it could be used for monitoring and prevention programs across a spectrum of exposures and needs.

Determination of Mechanisms of Action. Research on the mechanisms by which chemicals are activated to toxins may point to ways to interrupt and change these processes. Understanding of how genetics affect these processes, or how drugs and other factors can modify them, also will help sort out the more susceptible of an exposed population so that specific prevention strategies can be devised. Recent NIEHS research on carcinogen activating systems in the lung and skin suggests that cells differ markedly in their ability to activate carcinogens and in their response to various chemicals and hormones, which may turn such activations on and off. This offers hope of finding cell-specific materials to interrupt such chemical activation and prevent disease. Other research has demonstrated that the liver may be a major unsuspected target for estrogen action, and therefore might be used to detect such effects. This is particularly important because estrogen action is shared by many pollutants, including chemicals like DDT as well as natural toxins like zearalenone.

National Institute on Aging (NIA)

The segment of the United States population over 60 years of age is expected to increase from the current 11 percent of the population to between 17 and 23 percent during the next 40 years. The incidence of illness and disability is strongly correlated with advancing age. Moreover, economic, social, and psychological factors generate circumstances that exclude a growing number of older persons from independent, productive, and satisfying lives. In addition to conducting fundamental studies of the aging process, NIA has the responsibility to conduct and support biomedical, social, and behavioral research and training related to these special problems associated with aging.

NIA Prevention Highlights

Senile Dementia of the Alzheimer's Type (SDAT). This disease affects an estimated 2 million elderly and accounts for a disproportionate share of the total funds expended for nursing home care. While more detailed information on physiological and structural changes associated with the disease must be obtained, recent leads suggest some prevention approaches. Several studies indicate that acetylcholine production in the hippocampal area of the brain of SDAT patients is depressed. The possibility that intervention that increases synthesis of brain acetylcholine or inhibits its destruction might improve cognition of affected individuals is being evaluated.

Benign Prostatic Hyperplasia. This condition produces considerable morbidity in a high percentage of males after the age of 60. Research supported by NIA has established that prostatic hyperplasia in man and in dog and cat models is associated with intracellular accumulation of dihydrotestosterone and increased levels of its receptor protein. These events in the animal models are augmented by increased blood levels of estrogen. There is a possibility that blocking the synthesis of dihydrotestosterone or the action of estrogen would inhibit the onset of hyperplasia or induce regression.

Societal Factors that Influence Age-Related Physiological Decline. Current research indicates that the utilization of expensive medical care in the elderly population can be reduced significantly by a number of sociobehavioral interventions. These include encouragement of healthy lifestyles in regard to exercise, diet, smoking, alcohol consumption, and sleep. They include also development of associative methodologies to delay loss of cognition, repetitive training exercises to delay loss of cognitive and motor abilities, biofeedback training, employment of reward techniques that improve morale and cognitive functioning, and improved community work and family support systems. Further research on characterization of these interventions followed by community-wide trials in cooperation with health care and insurance groups could yield substantial savings in health care expenditures.

Nutrition and Aging. NIA is interested in developing measures to assess appropriate dietary requirements of older subjects on the basis of age, sex, and occupation. Longitudinal studies with human subjects and epidemiological studies are currently under way to assess possible relationships between the nutritional status of subjects and subsequent clinical status. Other studies are directed toward a better understanding of the effects of

changing taste and olfactory acuity with aging on diet, the biobehavioral effects of undernutrition on older subjects, the effects of living arrangements on dietary habits, nutrition and stress, and the relationships between obesity, morbidity, and mortality. Such studies could lead to appropriate dietary interventions to prevent some of the adverse effects of physiological decline associated with aging.

Division of Research Resources (DRR)

DRR strives to improve national research resources, and its responsibilities include helping institutions establish and operate general clinical research centers for studying human diseases in patients; increasing and improving laboratory animal facilities and resources, such as primate research centers; and providing a unified approach to improving institutional, regional, and national health research.

DRR Prevention Highlights

Health Effects of Coal Utilization. A major multidisciplinary project has been initiated with an overall objective of evaluating the long-term health effects of selected gaseous and particulate effluents from coal utilization by large stationary power plants. The effluents are complex mixtures of interacting gases and particles which vary depending upon the source of coal and plant operating characteristics. The study focuses on mechanisms of injury, adaptation, and repair of carefully selected representative effluent compounds and simple mixtures of those compounds so that these mechanisms can be extrapolated to the compounds and mixtures in effluents from specific plants under specific operating conditions. These studies will emphasize gaseous and particulate effluents of coal utilization and effects of various oxidative states of sulfur, nitrogen, and other metallic salts. The evaluations of effects on health status include assessment of the major respiratory diseases of man, including chronic bronchitis, emphysema, pulmonary fibrosis, asthma-like diseases, pulmonary neoplasia, and respiratory bacterial and viral infections.

Stress Mediation in Families of Black Hypertensives. An investigation of the relationship between psychosocial stress, coping styles, and resource utilization and the development of essential hypertension, funded by the Minority Biomedical Support Program, is under way in the Watts area of Los Angeles. The study centers on black families with hypertensive and normotensive members. Through a focus on individual, familial, occupational, and community sources of stress, an assessment can be made of the contribution of these factors to the high incidence of hypertension in the black population. Other possible contributing factors to be studied include patterns of utilization of social supports and resources during periods of crisis, and personal and familial health status.

High Density Lipoproteins Protect Against Heart Attacks. Studies are undertaken to define the risk factors and protective factors in coronary disease. It appears that the high density component of the lipoproteins (HDL) in the blood plasma protects against heart attacks. This component seems to be lower in sexually mature men than in women, which might be the explanation for the males' higher incidence of myocardial infarct. Studies are undertaken in male and female adolescents with delayed puberty to determine which role the sex hormone testosterone might play in the plasma levels.

Diabetes Complications. Efforts are continuing to prevent complications of diabetes. Several types of automated, wearable, insulin delivery systems are under investigation, because this seems to be one way of better controlling blood glucose. High levels of blood glucose are thought to be important in the development of long-term complications in the eyes, kidneys, and blood vessels.

Other DHHS Agencies

Health Care Financing Administration (HCFA)

The Health Care Financing Administration is responsible for the Medicare program, Federal participation in the Medicaid program, and other health care quality assurance programs. HCFA promotes the timely delivery of appropriate, quality health care to its beneficiaries—approximately 47 million of the Nation's aged, disabled, and poor. The agency has a strong interest and a variety of activities in health promotion and preventive health services. The need to lower costs of health services, while maintaining or improving the quality of care, makes it imperative to strengthen prevention activities, education, and health promotion. The agency's Prevention Committee, under the direction of the Associate Administrator for Policy, works on current activities, contributes to Department efforts, and seeks opportunities to increase the emphasis on prevention and develop new approaches where possible.

HCFA Prevention Highlights

Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Program. This comprehensive program for Medicaid-eligible children actively stresses and promotes the maintenance of optimum health through education and periodic checkups. Medicaid agencies inform eligible individuals of the availability of services, develop and implement a health-screening program, and provide for appropriate diagnosis and treatment. A brochure encouraging Medicaid-eligible parents to get health checkups for their children through EPSDT was produced and widely distributed. HCFA also worked with State Medicaid agencies on immunization initiatives under EPSDT.

Home and Community-Based Services. States may now request a waiver of Medicaid rules to provide home- and community-based services to elderly or disabled individuals who would otherwise require institutional care. In addition to case management, homemaker, home health aide services, personal care, adult day health, habilitative services, and respite care, States may provide other services approved as cost-effective, including preventive care.

Pneumococcal Vaccine. Medicare now reimburses for pneumococcal vaccine for elderly and disabled persons. HCFA's goal is to immunize 1.5 million beneficiaries over the next six years. The vaccine is effective for five years. HCFA's Office of Beneficiary Services arranged for a flyer on the vaccine to be mailed with social security checks.

Diagnostic, Screening, and Preventive Services. At their option, States may receive Federal Medicaid reimbursement for various diagnostic, screening, and preventive services. About 22 States provide diagnostic services, 15 provide screening, and 20 provide preventive services under this option. Both Medicare and Medicaid reimburse services to beneficiaries furnished through HMOs and similar comprehensive care organizations. This allows program recipients to benefit from the strong emphasis placed on preventive services by HMO-type organizations.

Second Opinion Program. HCFA's National Second Surgical Opinion Programs aim to improve the quality of health care by encouraging consumers to inform themselves fully about alternatives to surgery and the risks and benefits of treatment alternatives, before deciding whether to

undergo elective surgery. HCFA has established both a national network of referral centers that provide physicians' names to persons seeking second opinions and a national telephone hotline. Approximately 1,000 people use the hotline number each month.

Health Education and Preventive Care. Medicaid and Medicare cover patient education when it is given as part of a self-maintenance or rehabilitation process. Also, HCFA has funded various demonstrations to study the cost and effect of health education. One, the Cooperative Health Education Project (CHEP), aims to determine how a written health education intervention will affect utilization of HMO services and individual health behavior of 1,100 Medicare beneficiaries. Participants are informed through books, newsletters, and telephone contacts. Another recently completed demonstration found that Medicaid recipients who agreed to attend a four-session, self-care workshop utilized fewer health services under Medicaid over a six-month period than did a control group not given the workshop, resulting in significant cost savings to the program. Another group of recipients, provided only with self-care literature, showed no significant change in utilization. Additional ongoing demonstration projects in the prevention area include: an evaluation of health education services provided by physician assistants and physician extenders; an evaluation of Medicare-waivered preventive services; and a test of the quality and effectiveness of preventive medical care that involves the use of various health insurance plans. The results of these and related studies will provide HCFA with the information necessary to design effective beneficiary programs.

Office of Human Development Services (OHDS)

OHDS sponsors social services and human development programs responding to specific groups with recognized needs. About 80 percent of OHDS funds are dispersed as grants-in-aid to States that operate their own programs, such as those for low-income individuals, families, persons with developmental disabilities, runaway youths, the elderly, and Native Americans.

OHDS Prevention Highlights

Child Health and Immunization Initiatives. The goal of the Head Start Bureau of the Administration for Children, Youth, and Families is to bring about a greater degree of special competence in children of low-income families. Head Start health services emphasize prevention, early identification, treatment, and rehabilitative aspects of childhood illness as well as the involvement of the family in an ongoing health care system that will continue after the children leave the Head Start program. During 1981, 85 percent of the children enrolled in Head Start programs completed medical screening examinations, including all of the appropriate screening tests; 92 percent of those children identified as needing treatment received the appropriate therapy. Dental examinations were provided for 75 percent of the children, with 93 percent of the children identified as needing dental care receiving appropriate treatment. Seventy-six percent of the children had completed all of the required immunizations. In order to provide the children with nutritious meals, all Head Start

programs participated in the USDA Child Care Food Program.

Child Abuse and Neglect Programs. OHDS is funding eleven innovative primary prevention projects designed to prevent child abuse and neglect. Four of the projects focus on parent-infant bonding and perinatal parent support programs; two are outreach-oriented parental information and referral programs and the remainder are using various approaches to parent education on child development and coping with family problems. A research project has also been funded to evaluate process and impact issues related to the prevention projects. Based on the successes and experiences gained from the perinatal group of the aforementioned demonstration primary prevention projects, six health-based services improvement projects were funded by OHDS in FY 1981. These projects are designed to improve and augment prenatal and perinatal services as well as to provide additional supportive and informational services to strengthen relationships between parents and their children. Examples of projects: perinatal education including childbirth preparation, parent support groups, home-based lay worker services and specialized services for premature infants in the intensive care nursery.

Long Term Care Gerontology Centers. The planning and development of Long Term Care Gerontology Centers is authorized under Title IV of the Older Americans Act. Activities related to prevention conducted by these centers include interdisciplinary education and training of physicians, nurses, other allied health professionals, the development of services models along a continuum of care, research, technical assistance and the dissemination of information. Long Term Care Gerontology Centers provide opportunities for the interdisciplinary study of the prevention and treatment of chronic disease and the development of innovative approaches to the delivery of health care services. Training programs conducted by these centers include such methods of prevention as health education, early screening, diagnosis, primary interventions, and methods of teaching self-care. In Fiscal Year 1981, the Administration on Aging continued support of five operational centers which had been initiated in FY 1980 and awarded new grants to four additional operational centers. There are currently seven Long Term Care Gerontology Center planning grants which are active.

AoA/HSA Demonstrations. Through a joint agreement between the Administration on Aging and the Health Services Administration, eleven demonstration projects were supported in FY 1981. The purpose of these projects was to develop health care models for health and social service agencies to improve services to older persons. A major component of these projects included emphasis on the development of preventive health services such as home health care, health assessments, health screening services, methods for preventing premature institutionalization, and self-care education. Three of these projects continue to receive support through FY 1982, while eight have been completed.

Protective Services. In Fiscal Year 1981 the Administration on Aging funded State Agencies on Aging to develop plans for the provision of protective services for the older population. A primary purpose of these services is to prevent abuse and neglect of older persons, and to prevent or impede the development of functional incapacities.

Food Programs for the Elderly. The Nutrition Services Program for Older Americans, authorized by Title III(c) of the Older Americans Act, provides low-cost, nutritionally sound meals and other nutrition services, including outreach and nutrition education, to older persons, particularly those with the greatest economic or social needs. Support is authorized for both congregate and home-delivered meal services. In Fiscal Year 1980, there were 1,185 nutrition program projects with approximately 12,556 sites located in communities or neighborhoods where meals were served. Sixty-two percent of the meals were served to low income persons. The average number of meals served daily in FY 1980 was 634,054.

Chapter 4:

Prevention Inventories

This chapter presents a comprehensive inventory of health promotion and disease prevention programs and activities within the Department of Health and Human Services. The inventory and the narrative from Chapter 3, together, provide a complete picture of DHHS activities directed toward improving the general health status of the American people.

The first inventory of DHHS health promotion and disease prevention programs was published in 1977 as an appendix to *Disease Prevention and Health Promotion: Federal Programs and Prospects*. This earlier inventory was reorganized into 16 categories, the fifteen prevention priority areas of *Healthy People* plus a category of cross-cutting activities, and updated in *Prevention '80*. The format from *Prevention '80* has been retained for this publication. The inventory includes programs of the Public Health Service, the Health Care Financing Administration and the Office of Human Development Services. Resource levels are reported for Fiscal Year 1980 and Fiscal Year 1981.

Two points about the inventory are important to note. First, the figures reported in this inventory may vary slightly from figures contained in other documents. This reflects the fact that each agency applied its own criteria, within general guidelines, for identifying the activities reported here. For example, some agencies reported only primary prevention activities undertaken to prevent the occurence of disease or illness, whereas other agencies included secondary prevention activities initiated after the onset of a disease process but prior to the onset of symptoms. Second, a number of programs, such as Medicaid, provide preventive health services, but current reporting systems cannot identify the specific sums spent for these services. In some instances an estimate is provided; in others, the sum is excluded.

The following list is a key to footnoted items.

a. Funded with U.S.-owned foreign currencies obligated in prior years.

b. Dollar amount not available.

c. Estimate based on proportion of actual visits spent on this activity.

d. Plus significant but underdetermined portion of program funds.

e. Staff time. No program funds expended.

f. Total figure is for all geriatric services, of which smoking cessation is a part.

g. Discrete services only. Services for this purpose are also included as a component of several services in a number of States.

h. Includes funds from other Agencies through reimbursable agreements.

Table 1.
FY 1980 and FY 1981 Resources For Prevention Activities by Agency Department of Health and Human Services

Agency	*1980 Resources**	*1981 Resources**
Public Health Services		
Alcohol, Drug Abuse, and Mental Health Administration	$ 36,430,016	$ 34,829,049
Centers for Disease Control	351,846,000	277,564,485
Food and Drug Administration	327,937,000	330,354,000
Health Resources Administration**	20,860,538	14,183,869
Health Services Administration**	894,158,633	924,470,888
National Institutes of Health	506,458,989	542,416,153
Office of the Assistant Secretary for Health	12,089,215	14,603,286
Health Care Financing Administration	109,316,306	139,461,000
Office of Human Development Services	1,237,064,621	1,293,177,357
Total Resources	**$3,496,161,318**	**$3,571,060,087**

*Reported by individual agencies.

**On September 1, 1982 the Health Resources Administration (HRA) and the Health Services Administration (HSA) were reorganized into the new Health Resources and Services Administration. The programs and activities presented in this chapter reflect the operation of HRA and HSA as separate agencies during FY 1980 and FY 1981.

Table 2.
FY 1980 and FY 1981 Resources By Prevention Priority Area Department of Health and Human Services

Prevention Priority Area	*1980 Resources**	*1981 Resources**
1. Family Planning	$ 418,281,886	$ 430,466,533
2. Pregnancy and Infant Care	424,283,438	445,331,398
3. Immunizations	107,476,405	128,410,917
4. Sexually Transmitted Diseases	58,821,922	57,341,257
5. High Blood Pressure Control	33,517,161	29,724,712
6. Toxic Agent Control	209,710,379	221,118,274
7. Occupational Safety and Health	109,997,119	94,547,231
8. Accident Prevention and Injury Control	9,296,654	9,767,897
9. Fluoridation and Dental Health	13,748,886	13,111,236
10. Surveillance and Control of Infectious Diseases	210,616,717	218,440,374
11. Smoking and Health	16,551,149	11,015,055
12. Misuse of Alcohol and Drugs	151,917,641	130,309,646
13. Improved Nutrition	484,474,983	516,345,692
14. Physical Fitness and Exercise	5,980,621	6,411,160
15. Control of Stress and Violent Behavior	10,691,395	9,946,824
16. Cross-Cutting and Other	1,230,794,962	1,248,771,881
Total Resources	**$3,496,161,318**	**$3,571,060,087**

*Reported by individual agencies.

Table 3.
DHHS Agencies Reporting Prevention Activities in 1981 by Priority Area

Department of Health and Human Services Agencies / *Prevention Priority Areas*	*1. Family Planning*	*2. Pregnancy and Infant Care*	*3. Immuniza-tions*	*4. Sexually Transmitted Diseases*	*5. High Blood Pressure Control*
Public Health Service					
Alcohol, Drug Abuse, and Mental Health Administration	$ —	$ —	$ —	$ —	$ —
Centers for Disease Control	3,737,000	617,045	30,588,000	47,637,000	—
Food and Drug Administration	—	—	11,544,000	—	—
Health Resources Administration	—	3,571,299	—	—	—
Health Services Administration	227,615,841	362,380,693	49,668,832	6,441,958	20,000,000
National Institutes of Health	28,016,645	69,608,656	21,610,085	3,262,299	9,639,616
Office of the Assistant Secretary for Health	753,000	8,893,705	—	—	85,096
Health Care Financing Administration	83,000,000	—	15,000,000	—	—
Office of Human Development Services	87,344,047	260,000	—	—	—
Total Resources Reported	**$ 430,466,533**	**$ 445,331,398**	**$ 128,410,917**	**$ 57,341,257**	**$ 29,724,712**

6. Toxic Agent Control	7. Occupational Safety and Health	8. Accident Prevention and Injury Control	9. Fluoridation and Dental Health	10. Surveillance and Control of Infectious Diseases	11. Smoking and Health	12. Misuse of Alcohol and Drugs	13. Improved Nutrition	14. Physical Fitness and Exercise	15. Control of Stress and Violent Behavior	16. Cross-cutting and Other	Total
$ —	$ —	$ —	$ —	$ —	$ 1,183,885	$ 19,132,813	$ —	$ —	$ 3,430,073	$ 11,082,278	**$ 34,829,049**
17,203,000	67,369,000	150,000	6,813,000	37,723,000	445,440	—	2,400,000	—	—	62,882,000	**277,564,485**
84,289,000	—	527,000	—	7,695,000	—	75,949,000	49,814,000	—	—	100,536,000	**330,354,000**
—	1,225,577	—	—	177,363	—	—	921,599	—	453,261	7,834,770	**14,183,869**
50,000	14,442,787	4,215,380	—	156,476,354	386,301	16,035,154	9,701,068	—	—	57,056,520	**924,470,888**
119,576,274	11,509,867	4,846,637	6,298,236	16,368,657	7,444,237	1,267,479	29,390,080	5,597,160	5,959,834	202,020,391	**542,416,153**
—	—	28,880	—	—	1,555,192	—	—	814,000	102,989	2,370,424	**14,603,286**
—	—	—	—	—	—	—	—	—	—	41,461,000	**139,461,000**
—	—	—	—	—	—	17,925,200	424,118,945	—	667	763,528,498	**1,293,177,357**
$221,118,274	**$ 94,547,231**	**$ 9,767,897**	**$ 13,111,236**	**$218,440,374**	**$ 11,015,055**	**$130,309,646**	**$516,345,692**	**$ 6,411,160**	**$ 9,946,824**	**$1,248,771,881**	**$3,571,060,087**

Table 4.
FY 1980 and FY 1981 Prevention Inventories
By Agency and Priority Area
Department of Health and Human Services

1. Family Planning

1980 Total $418,281,886
1981 Total $430,466,533

Public Health Service

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
Centers for Disease Control	**Center for Health Education and Promotion**					
	Epidemiologic Research and Surveillance Related to Reproductive Health	$ 3,737,000	$ 3,737,000[h]	●	●	
Health Services Administration	**Bureau of Community Health Services**					
	Family Planning	162,000,000	161,671,000	●		
	Community Health Centers	28,770,000	30,000,000	●		
	Migrant Health	2,760,000	3,000,000	●		
	Maternal and Child Health/Crippled Children	25,000,000	25,000,000	●		
	National Health Service Corps	5,060,00	5,930,000	●		
	Bureau of Medical Services					
	Family Planning Services	141,942c	119,885c	●		
	Family Planning Research	b	b		●	
	Contraceptive Use and Family Planning	3,500	2,956	●		
	Indian Health Service					
	Clinical Services and Preventive Health	1,892,000	1,892,000	●		
National Institutes of Health	**Division of Research Resources**					
	Family Planning Research	6,349	38,645		●	

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
National Cancer Institute					
Contraception Usage and Cancer Risk	$ 2,620,000	$ —		●	
National Institute of Child Health and Human Development					
Social and Behavioral Research	11,480,000	12,093,000		●	
Human Infertility	1,796,000	3,261,000		●	
Contraceptive Development	8,256,000	8,254,000		●	
Contraceptive Evaluation	7,672,000	4,370,000		●	
Office of the Assistant Secretary for Health					
Office of Population Affairs					
The overall planning, oversight, coordination, monitoring, and evaluation of the family planning service programs administered by the Health Services Administration, the Health Care Financing Administration, the Office of Human Development Services, and the Office of Adolescent Pregnancy Programs	220,000	22,000	●		
The overall planning, oversight, coordination, monitoring, and evaluation of the population and family planning research programs administered by the Health Services Administration, the National Center for Health Statistics, the National Institutes of Health, the Centers for Disease Control, and the Food and Drug Administration	130,000	130,000		●	

1. Family Planning (Continued)

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
	Office of Health Research, Statistics, and Technology/National Center for Health Statistics					
	National Survey of Family Growth	$ 780,735	$ 403,000		●	
Health Care Financing Administration	**Bureau of Program Operations**					
	Medicaid Support for Family Planning (Federal Share)	74,000,000	83,000,000	●		
Office of Human Development Services	**Office of Program Coordination and Review**					
	Family Planning Services, Education (Title XX)	81,956,360	87,344,047	●		

2. Pregnancy and Infant Care

1980 Total $424,283,438
1981 Total $445,331,398

Public Health Service

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
Centers for Disease Control	**Center for Environmental Health**					
	Epidemiologic Consultation on Birth Defects and Genetics Laboratory	$ 1,005,000	$ 617,045h	●	●	
Health Resources Administration	**Bureau of Health Professions**					
	Public Health Education Projects/ Traineeships with Focus on Maternal and Child Health and Population Studies	604,452	614,337	●		●
	Development and Implementation of Graduate Nursing Programs in Maternal-Child Health	1,668,966	2,018,640			●
	Psychophysiological Correlates of Maternal-Fetal Health	137,484	115,889		●	
	Models of Newborn Nursing Services	276,711	185,791		●	
	Preparation for Labor	48,429	55,024		●	
	Nursing Child Assessment Follow-up	108,218	136,065		●	
	Nursing Care and Beliefs of Navajo Women	65,772	61,906		●	
	Locus of Control and Satisfaction with Child Birth	—	70,580		●	
	Nursing Interventions to Promote Paternal Behavior	—	107,108		●	
	Parent/Infant Interactions in Normal and High Risk Subjects	—	112,954		●	

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Health Services Administration

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Comprehensive Nursing Care of the Neonate	$ 74,359	$ 93,005			●
Bureau of Community Health Services					
Sudden Infant Death Syndrome (SIDS) Program	2,802,000	2,802,000	●		
Community Health Centers	144,040,000	155,000,000	●		
Migrant Health	15,710,000	17,110,000	●		
Maternal and Child Health/Crippled Children	112,350,000	117,000,000	●		
National Health Service Corps	32,400,000	37,300,000	●		
Health Awareness (SIDS, Sickle Cell, Hemophilia)	3,100,000	3,500,000	●		
Screening, Identification, and Services for Blood Disorders/Genetics Program	6,575,000	6,867,000	●		
Screening, Identification, and Services for Metabolic Disorders/Maternal and Child Health	1,900,000	1,975,000	●		
Screening, Identification, and Services for Chromosomal Abnormalities and General Genetic Diseases/Maternal and Child Health/Genetics Program	9,900,000	11,553,000	●		
Bureau of Medical Services					
Program to Keep Children Healthy and Promote Early Diagnosis of Child Health Problems	2,100,020	1,773,693	●		
Sexuality: Counseling on Prenatal and Postpartum Care (with IHS)	b	b	●		

2. Pregnancy and Infant Care (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Indian Health Service					
Clinical Services and Preventive Health	$ 7,500,000	$ 7,500,000	●		
Office of International Health Affairs					
Study in Egypt of the Detection and Treatment of Inborn Errors of Metabolism which Impair Mental Development (with the Office of International Health, OASH)	a	a		●	
Study in Egypt of Perinatal Screening of Developmental Malformations	a	a		●	
Study of Lactose Intolerance in Egypt (with the Office of International Health, OASH)	a	a		●	
Neonatal Care Study in Egypt (with the Office of International Health, OASH)	a	a		●	
Study of the Effectiveness of Genetic Counseling in Poland (with the Office of International Health, OASH)	a	a		●	
Study in Poland of the Cost-Benefit, Medical, and Sociological Aspects of Prenatal Diagnosis (with the Office of International Health, OASH)	a	a		●	
Study in Yugoslavia of Low Birth Weight and Maturity in Child Development (with the Office of International Health, OASH)	a			●	
Division of Research Resources					
Pregnancy and Infant Care Research	2,635,884	1,806,656		●	

2. Pregnancy and Infant Care (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
National Cancer Institute					
Cellular Carcinogenesis and Tumor Promotion	$ —	$ 506,000		●	
National Eye Institute					
Hereditary Degenerations of the Retina	3,956,141	5,248,000		●	
Retrolental Fibroplasia	822,417	1,221,000		●	
Effects of Early Visual Deprivation on Visual System Development	4,676,048	4,095,000		●	
National Institute of Child Health and Human Development					
Mental Retardation	14,845,000	15,607,000		●	
Sudden Infant Death Syndrome	2,704,000	3,367,000		●	
Epidemiology and Biometry	696,000	806,000		●	
Social Learning	1,803,000	757,000		●	
Nutrition	9,527,000	9,643,000		●	
High Risk Pregnancy	8,646,000	9,223,000		●	
Fetal Pathology	5,626,000	6,945,000		●	
Prematurity	3,040,000	4,160,000		●	
Disorders of the Newborn	4,337,000	5,134,000		●	
Congenital Malformations	4,945,000	3,090,000		●	

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
Office of the Assistant Secretary for Health	**Office of Adolescent Pregnancy Programs**					
	Community-based Adolescent Pregnancy Programs	$ 6,450,000	$ 8,400,000	●		
	Office of Health Research, Statistics, and Technology/National Center for Health Services Research					
	A Comparative Study of the Implementation of Child Health Policy	2,419	—		●	
	Decision and Policy Analysis for Fetal Monitoring	2,841	—		●	
	Evaluation of an Alternative Birthing Center	128,560	—		●	
	Impact Evaluation of Programs for Mothers and Infants	30,947	—		●	
	Priorities for Research in MCH Services: A Literature Review	36,388	—		●	
	Health Behavior in Pregnancy: Testing a General Model	—	26,800		●	
	Evaluation of Regional Emergency Services for Low Weight Newborns	—	165,133		●	
	The Cultural Context of Childhood Diarrhea in the Developing World	—	19,030		●	
	Evaluation of the Effects of Fetal Monitoring on Mortality and Development	—	282,742		●	

Office of Human Development Services

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Administration for Children, Youth, and Families					
Head Start/Parent Education Program and Parent-Child Centers	$ 260,000	$ 260,000	●		
Office of Program Coordination and Review					
Services to Expectant Parents (Title XX)	6,746,382	d	●		
Day Care, Information and Referral (Title XX)	d	d	●		
Program to Keep Children Healthy and Promote Early Diagnosis of Child Health Problems (Title IV-B)	d	d		●	

3. Immunizations

1980 Total $107,476,405
1981 Total $128,410,917

Public Health Service

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
Centers for Disease Control	**Center for Health Promotion and Education**					
	Survey and Analysis of Immunization Attitudes and Behaviors	$ —	$ 166,000		●	
	Center for Prevention Services					
	Immunization Grant Program	24,532,000	24,132,000	●		
	Immunization/Technical Assistance and Public Information	5,756,000	6,290,000	●	●	
Food and Drug Administration	**Bureau of Biologies**					
	Vaccine Testing	9,792,000	11,544,000		●	
Health Services Administration	**Bureau of Community Health Services**					
	Community Health Centers	4,230,000	4,300,000	●		
	Migrant Health	660,000	720,000	●		
	Maternal and Child Health/Crippled Children	32,700,000	34,400,000	●		
	National Health Service Corps	1,470,000	1,700,000	●		
	Bureau of Medical Services					
	Program to Reduce the Incidence of Communicable Disease/Diseases Preventable by Immunization	1,123,400	948,832	●		

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3. Immunizations (Continued)

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
	Indian Health Service					
	Clinical Services and Preventive Health	$ 7,600,000	$ 7,600,000	●		
National Institutes of Health	**Division of Research Resources**					
	Immunizations Research	196,005	320,085		●	
	National Cancer Institute					
	Suppression of Tumorigenesis by Immunization	2,153,000	601,000		●	
	National Institute of Allergy and Infectious Diseases					
	Program to Reduce the Incidence of Bacterial and Viral Diseases Preventable by Immunization (excluding sexually transmitted diseases)	17,264,000	20,689,000		●	
Health Care Financing Administration	**Bureau of Program Operations**					
	EPSDT	d	d	●		
	Immunization Services	d	d	●		
	Medicare Pneumococcal Vaccinations	—	15,000,000	●		

4. Sexually Transmitted Diseases

1980 Total $58,821,922
1981 Total $57,341,257

Public Health Service

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
Centers for Disease Control	**Center for Prevention Services**					
	Sexually Transmitted Diseases Grant Program	$ 40,000,000	$ 40,000,000	●		
	Sexually Transmitted Diseases/ Technical Assistance, Research and Public Information	9,685,000	7,637,000	●	●	
Health Services Administration	**Bureau of Medical Services**					
	Research at Seattle USPHS Hospital	41,600	35,136		●	
	Indian Health Service					
	Clinical Services	6,406,822	6,406,822	●		
National Institutes of Health	**Division of Research Resources**					
	Sexually Transmitted Diseases Research	—	33,299		●	
	National Cancer Institute					
	Development of Tests for Herpes Virus	11,000	11,000		●	
	National Eye Institute					
	Trachoma	696,500	680,000		●	
	National Institute of Allergy and Infectious Diseases					
	Vaccine Development	1,981,000	2,538,000		●	

5. High Blood Pressure Control

1980 Total $33,517,161
1981 Total $29,724,712

Public Health Service

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
Health Services Administration	**Bureau of Community Health Services**					
	Hypertension Grant Program	$ 20,000,000	$ 20,000,000	●		
	Bureau of Medical Services					
	Cooperative Study—San Francisco Public Health Hospital and Johns Hopkins University	e	e		●	
	Cooperative Hypertension Study with Baltimore Hospital and Johns Hopkins University	e	e		●	
National Institutes of Health	**Division of Research Resources**					
	High Blood Pressure Control Research	365,936	333,680		●	
	National Heart, Lung, and Blood Institute					
	National High Blood Pressure Education Program—Support	2,196,548	1,910,094	●		
	Ad Council/Mass Media	359,698	378,398	●		
	Statewide Demonstration Projects	4,020,547	3,925,046	●		
	Health Education Message Testing	66,000	66,000	●		
	Health Hazard Appraisal	150,000	158,299		●	
	Hypertension Control—Worksetting	147,106	392,598		●	
	Direct Operations and Program Management	1,000,000	1,208,000	●		
	National High Blood Pressure Education Research Programs—Psychological BP Control Modalities; Regimen Adherence; Stress Reduction	1,780,000	—		●	

5. High Blood Pressure Control (Continued)

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
National Institutes of Health	**National Heart, Lung, and Blood Institute (continued)**					
	Hypertension Detection and Follow-up Program (NHLBI—National Clinical Trial Component)—Screening of Population and Follow-up Screening of High-Risk Population; Referral to Trial or to Treatment; Counseling for Siblings and Spouses	$ 3,431,326	$ 1,269,501		●	
Office of the Assistant Secretary for Health	**Office of Health Research, Statistics and Technology/National Center for Health Services Research**					
	Evaluation of the Long-Term Effects of Special Packaging of Antihypertensive Medication on Compliance and Blood Pressure Control	—	85,096		●	

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6. Toxic Agent Control

1980 Total $209,710,379
1981 Total $221,118,274

Public Health Service

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
Centers for Disease Control	**Center for Environmental Health**					
	Environmental Hazards/Epidemiology, Laboratory Support and Technical Assistance to States	$ 4,900,000	$ 6,500,000	●	●	
	Lead-based Paint Poisoning Prevention Grant Program	11,250,000	10,148,000	●		
	Education on Lead Hazards	534,000	555,000	●		
Food and Drug Administration	**Bureau of Foods**					
	Food Additives	16,901,000	14,851,000	●	●	
	Chemical Contaminants	13,506,000	19,602,000	●	●	
	Mycotoxins and Other Natural Poisons	4,113,000	—	●	●	
	Food Service, Shellfish, and Milk Safety	5,779,000	5,733,000	●	●	
	Cosmetics	1,855,000	2,373,000	●	●	
	Study in Egypt of Poisonous Plants Contaminating Edible Ones and Toxic Substances in Plant Foods (with the Office of International Health, OASH)	a	a		●	
	Study in Poland of Nine Teratological GRAS Substances (with the Office of International Health, OASH)	a	a		●	
	Tunisian Mycotoxin Survey of Tunisian Foods (with the Office of International Health, OASH)	a	a		●	

6. Toxic Agent Control (Continued)

Health Services Administration

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Bureau of Radiological Health					
Ionizing Radiation—Medical	$ 8,114,000	$ 10,756,000	●	●	
Ionizing Radiation—Consumer and Industrial Products	6,230,000	6,918,000	●	●	
Light Radiation	4,181,000	4,195,000	●	●	
Sonic Radiation	1,393,000	1,775,000	●	●	
Radio Frequency Microwave	2,805,000	2,232,000	●	●	
National Center for Toxicological Research					
Programs to Study the Biological Effects of Potentially Toxic Chemical Substances Found in Man's Environment	14,779,000	15,854,000		●	
Bureau of Community Health Services					
Migrant Program: Pesticide Poisoning Prevention	50,000	50,000	●	●	
Bureau of Medical Services					
Study in India of Role of Anthropods in Transmission of Leprosy (with the Office of International Health, OASH)	a	a		●	
Indian Health Service					
Study of Epidemiology, National History and Control of Trachoma in Tunisia (with the Office of International Health, OASH)	a	a		●	

6. Toxic Agent Control (Continued)

National Institutes of Health

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Division of Research Resources					
Toxic Agent Control Research	$ 1,754,379	$ 828,274		●	
National Cancer Institute					
Toxicologic Testing Program	40,692,000	43,598,000		●	
Development of Improved Tests to Predict Carcinogenicity	5,054,000	5,472,000		●	
Coordination and Support to Other Federal Agencies	5,474,000	5,541,000	●	●	●
Containment of Cancer Causing Materials in Research Facilities	5,037,000	580,000	●		
The Chemical and Physical Carcinogenesis Research Program	6,495,000	5,835,000		●	
National Heart, Lung, and Blood Institute					
Fibrotic and Immunologic Lung Diseases; SCOR Programs on Hypersensitivity Pneumonitis and Pulmonary Fibrosis	3,060,000	3,332,000		●	
National Institute of Environmental Health Sciences					
Environmental Health Research and Manpower Development Resources	8,130,000	7,903,000			●
Prediction, Detection, and Assessment of Environmentally Caused Diseases and Disorders	22,749,000	28,032,000		●	
Mechanisms of Environmental Diseases and Disorders	14,875,000	18,455,000		●	

7. Occupational Safety and Health

1980 Total $109,997,119
1981 Total $ 94,547,231

Public Health Service

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
Centers for Disease Control	**National Institute for Occupational Safety and Health**					
	Research (Epidemiology, Surveillance, Field Studies, Health Hazard Evaluations)	$ 62,195,000	$ 55,017,000	●	●	
	Professional Development and Training	13,882,000	8,752,000			●
	Scientific and Technical Services	4,305,000	3,600,000	●		
Health Resources Administration	**Bureau of Health Professions**					
	Grants for Preparation of Occupational Health Nurse Practitioners	142,748	—			●
	Development (with NIOSH) of Curriculum Content and Practice Including Environmental Factors, Accident Prevention, and Health Screening in the Occupational Setting	d	d	●		
	Allied Health Educational and Curriculum Projects with Focus on Environmental Occupational Health	906,330	154,182			●
	Public Health Education Projects and Traineeships with Focus on Environmental/Occupational Health	1,860,945	1,071,395			●
Health Services Administration	**Bureau of Medical Services**					
	Occupational Health Training Programs (Division of Federal Employees Occupational Health (DFEOH))	100,000	84,461	●		

7. Occupational Safety and Health (Continued)

National Institutes of Health

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Workers' Occupational Health Education on Federal Facilities (DFEOH)	$ 1,500,000	$ 1,266,911	●		
Division of Federal Employee Health Preventive Health Screening Programs (e.g., hearing tests, vision tests)	3,500,000	2,956,126	●		
Employee Health Units	10,000,000	8,446,074	●		
Employee Health Maintenance, Exams, and Special Job-Related Exams	2,000,000	1,689,215	●		
Division of Research Resources					
Occupational Safety and Health Research	29,038	163,867		●	
National Cancer Institute					
Educational Programs to Reduce Work-Related Cancers	4,970,000	4,645,000	●		
Program to Reduce Asbestos Exposure	485,000	1,124,000	●		
Program to Reduce Radiation Exposure	786,000	351,000	●		
Studies to Evaluate Cancer Risk Among Workers	1,115,000	2,860,000		●	
Occupational Safety and Health Facility Design and Consultation	748,000	649,000	●		
National Eye Institute					
Prevention of Eye Damage from Environmental Light and Toxic Chemicals	808,058	987,000		●	

7. Occupational Safety and Health (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
National Heart, Lung, and Blood Institute					
Immune and Fibrotic Responses to Occupational Environment	$ 664,000	$ 730,000		●	
Office of the Assistant Secretary for Health					
Office of Disease Prevention and Health Promotion/Office of Health Information, Health Promotion and Physical Fitness and Sports Medicine					
Cosponsorship with Washington Business Group on Health Meetings with Industries to Foster Introduction and/or Strengthening of Evaluation in Employee Health Promotion Programs	e	e		●	
Evaluation of a Federal Occupationally Based Health Promotion Program	e	e		●	
Development of Guidelines for Health Education and Health Promotion Programs in Occupational Settings	e	e	●	●	●
Development of a Set of Common Data Items for Comparative Evaluation of Worksite Health Promotion Programs	e	e	●	●	

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8. Accident Prevention and Injury Control

1980 Total $9,296,654
1981 Total $9,767,897

Public Health Service

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
Centers for Disease Control	**Center for Environmental Health**					
	Injury Control Activities	$ —	$ 150,000	●	●	
Food and Drug Administration	**Bureau of Drugs**					
	Poison Control	709,000	527,000	●		
Health Services Administration	**Bureau of Community Health Services**					
	Maternal and Child Health/Accident Prevention Projects	675,000	753,000	●		
	Indian Health Services					
	Clinical Services and Preventive Health	3,462,380	3,462,380	●		
National Institutes of Health	**Division of Research Resources**					
	Accident Prevention and Injury Control Research	—	11,368		●	
	National Cancer Institute					
	Accident Prevention in Cancer Research Laboratories	749,000	519,000	●		
	National Eye Institute					
	Prevention of Blindness from Corneal Burns	—	647,000		●	

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
National Heart, Lung, and Blood Institute					
Rehabilitation and Corrective Surgery Research/ Cardiovascular and Other Circulatory Trauma	$ 3,500,000	$ 3,669,269		●	
Office of the Assistant Secretary for Health					
Office of Health Research, Statistics, and Technology/ National Center for Health Services Research					
Quantitation of Injury and Critical Illness	49,826	—		●	
EMS Severity Index Research	12,128	—		●	
Severity Index Conference	35,000	—		●	
Severity Index Construction: Methods, EMS Applications	104,320	28,880		●	

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9. Fluoridation and Dental Health

1980 Total $13,748,886
1981 Total $13,111,236

Public Health Service

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
Centers for Disease Control	**Center for Prevention Services**					
	Fluoridation Grant Program	$ 5,000,000	$ 5,000,000	●		
	Technical Assistance	1,773,000	1,813,000	●	●	
National Institutes of Health	**Division of Research Resources**					
	Fluoridation Research	54,886	31,236		●	
	National Institute of Dental Research					
	Caries Prevention	5,551,000	5,113,000		●	
	Periodontal Disease Prevention	889,000	871,000		●	
	Restorative Materials	54,000	55,000		●	
	Soft Tissue Stomatology	426,000	152,000		●	
	Pain Control	1,000	—		●	
	Craniofacial Anomalies	—	76,000		●	

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10. Surveillance and Control of Infectious Diseases

1980 Total $210,616,717
1981 Total $218,440,374

Public Health Service

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
Centers for Disease Control	**Center for Infectious Diseases**					
	Infectious Disease Investigations, Surveillance, Control, and Laboratory Services	$ 35,660,000	$ 37,723,000	●	●	
Food and Drug Administration	**Bureau of Biologics**					
	Blood and Blood Products	3,387,000	3,941,000	●		
	Viral and Rickettsial Products	1,586,000	2,110,000	●		
	Bacterial and Allergenic Products	1,109,000	1,644,000	●		
Health Resources Administration	**Bureau of Health Professions**					
	Program to Prepare Epidemiological Nurses to Work in Area of Infectious Disease Control in Acute Care Settings—Wayne State University	54,971	177,363		●	

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10. Surveillance and Control of Infectious Diseases (Continued)

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
Health Services Administration	**Bureau of Community Health Services**					
	Migrant Program: Sanitation	$ 500,000	$ 500,000	●	●	
	Bureau of Medical Services					
	Research Projects on Infectious Diseases Being Conducted at U.S. Public Health Hospital at San Francisco (including leprosy research)	208,800	176,354		●	
	Indian Health Services					
	Preventive Health and Clinical Services	154,256,793	155,800,000	●		
National Institutes of Health	**Division of Research Resources**					
	Infectious Agent Control Research	66,818	499,657		●	
	Fogarty International Center					
	Studies on Vectors and Agents of Infectious Diseases Prevalent in the Tropics	1,340,000	1,700,000		●	
	National Cancer Institute					
	Biological Carcinogenesis	1,390,000	1,281,000		●	

10. Surveillance and Control of Infectious Diseases (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
National Eye Institute					
Immune Mechanisms Underlying Ocular Infections	$ 3,888,699	$ 4,233,000		●	
Herpes Simplex Infections of the Cornea	1,629,636	1,861,000		●	
National Institute of Allergy and Infectious Diseases					
Prevention of Vector Transmitted Diseases	5,535,000	6,804,000		●	

11. Smoking and Health

1980 Total $16,551,149
1981 Total $11,015,055

Public Health Service

Alcohol, Drug Abuse, and Mental Health Administration

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
National Institute on Drug Abuse					
Long Term Elimination of Chronic Smoking Behavior	$ 68,357	$ —		●	
Ten Year Prospective Community Study of Teen Smoking	114,892	—		●	
Prevention of Smoking in School Children	55,893	41,800		●	
Cigarette Smoking and Public Policy	32,512	41,229		●	
Interaction of Alcohol and Tobacco	67,403	—		●	
Smoking Safer Cigarettes	28,719	—		●	
Long-term Maintenance Programs in Smoking Cessation	52,070	—		●	
Tobacco Tolerance and Dependence	104,618	—		●	
Minimal Contract Smoking Cessation Program	77,675	91,093		●	
Demonstration Smoking Clinic	46,531	—		●	
Topographical Analysis of Smoking Behavior	94,323	83,497		●	
Adolescent Drug Abuse: Utility and Smoking	130,093	137,426		●	
"Addict" Smokers and Cessation with Nicotine Gum	32,777	35,349		●	
Maintaining Non-Smoking	81,708	89,020		●	
Peer Pressure in Recruitment to Cigarette Smoking	167,787	176,154		●	
Teenage Smoking and Personality	32,953	19,436		●	

11. Smoking and Health (Continued)

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
	Smoking Cessation in Pregnancy	$ 33,862	$ 15,065		●	
	A Value Approach to Reducing and Preventing Smoking	207,338	170,383		●	
	Behavioral Methods For Cigarette Smoking Reduction	52,067	62,122		●	
	Analysis of Cigarette and Coffee Use Interactions	83,023	—		●	
	Basis of Nicotine Addiction	90,349	67,887		●	
	Relapse Prevention Within Cigarette Smokers	88,610	89,992		●	
	Behavioral Action of Nicotine	83,705	63,432		●	
Centers for Disease Control	**National Institute for Occupational Safety and Health**					
	Smoking and Health Studies	800,000	445,440		●	
Health Services Administration	**Bureau of Medical Services**					
	Geriatric Services	121,373f	102,513f	●		
	Patient Education—Division of Hospitals and Clinics and Federal Employee Health	336,000c	283,788c	●		
National Institutes of Health	**Division of Research Resources**					
	Smoking Cessation Research	14,031	111,780		●	

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11. Smoking and Health (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
National Cancer Institute					
Smoking Education and Information	$ 948,000	$ 863,000	●		
Identification of Harmful Constituents in Tobacco Smoke	5,599,000	1,987,000		●	
Epidemiology to Assess Smoking Risks	840,000	496,000		●	
Developmental Intervention	1,144,000	1,349,000		●	
National Heart, Lung, and Blood Institute					
Stanford—Smoking Prevention Education and Smoking Cessation Programs on Individual and Group Levels	750,000	750,000		●	
National Research and Demonstration Center, Baylor College of Medicine—Adult and Adolescent Smoking Cessation and Prevention Programs (Social-Psychological Deterrents in School Project)	1,800,000	1,500,000	●		
National Research and Demonstration Center, Vermont Lung Center—Smoking Cessation in Schools (School Health Education Project)	119,361	143,053	●		
Identification of Variables Associated with Maintenance of Nonsmoking in Ex-Smokers	328,424	244,404		●	

11. Smoking and Health (Continued)

Office of the Assistant Secretary for Health

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Office of Health Research, Statistics, and Technology/ National Center for Health Services Research					
The Benefits and Costs of Anti-Smoking Policies	$ 31,866	$ —		●	
The Potential for Using Taxes to Reduce Smoking	23,381	—		●	
Medical Costs of Cigarette Smoking	57,475	—		●	
Office on Smoking and Health					
National Poster and Essay Contest Involving 7th Grade Students	37,000	60,000	●		
Development of a National Information and Education Program	432,280	469,015	●		
Technical Information Services—Inquiry and Reference, Photocopy, Computer Search and Retrieval Services—and Production and Distribution of Publications	820,732	308,000	●		
Study to Evaluate the Relative Risks Associated with Varying Levels of Tar, Nicotine, and Carbon Monoxide in Cigarettes, and the Resultant 1981 Report on the Health Consequences of Smoking	125,000	132,768		●	
Survey of Adult Smoking Rates—Data Collected for OSH and Report(s) Written by National Center for Health Statistics	395,961	520,409		●	
Preliminary Development of the 1982 Surgeon General's Report on the Health Consequences of Smoking	$ —	$ 65,000		●	

Public Health Service

Alcohol, Drug Abuse, and Mental Health Administration

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
National Institute on Alcohol Abuse and Alcoholism					
Techniques to Reduce Alcohol-Related Accidents	$ 135,000	$ 311,000		●	
ABC Laws	88,000	110,000		●	
Basic Principles	142,000	325,000		●	
Community Alcohol Abuse Prevention Strategies	168,602	—	●		
Alcohol Prevention in Small Rural Communities	116,851	—	●		
Alcohol, Mass Media, and Public Education	138,365	95,615	●		
Replication Training	56,543	—	●		
Field Representatives Training in Prevention	140,485	136,700	●		
Supermarket Publications	67,200	62,400	●		
Alcohol Outlets, Drinking Patterns, and Local Zoning	213,820	108,124	●		
Impact of Approaches to Primary Alcohol Prevention	18,215	—	●		
Prevention, Treatment, and Rehabilitation Program	98,329	—	●		
Prevention Model Replication	387,030	—	●		
Evaluation of Model Alcohol Education Project	199,912	—	●		
Services for Children Symposium	3,476	—	●		

12. Misuse of Alcohol and Drugs (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Prevention of Alcohol Problems in Predelinquent Youth	$ 21,399	$ 110,820	●		
Minimizing Alcohol Problems by Focus on Youth	25,624	150,552	●		
Westchester County Student Assistance Program	111,056	111,056	●		
Children of Alcoholic Parents Intervention Strategies	134,176	141,211	●		
Raising the Legal Drinking Age in Michigan and Maine	122,502	—	●		
Assessing the Impact of Legislation Raising Massachusetts Drinking Age	347,235	285,871	●		
Fetal Alcohol Syndrome Prevention	141,605	35,000	●		
Identification of National Center for Health Statistics Data Sources for Information Pertaining to Alcohol Consumption	135,000	—	●		
Primary Prevention of Alcohol Abuse Among Women	229,466	307,212	●		
Mayors' Leadership Institute	30,386	53,044	●		
Public Education Campaign	1,246,545	—	●		
Public Education Campaign Evaluation	548,849	—	●		
California Indian Youth Alcohol Education	189,241	—	●		
Native American Peer Alcohol Abuse Prevention	15,000	—	●		
Clearinghouse: Primary Prevention Activities	674,000	674,000	●		

12. Misuse of Alcohol and Drugs (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Development of Resource Package on Children from Alcoholic Families	$ —	$ 127,839	●		
Training Conferences to Disseminate Prevention Program Information	—	216,743	●		
Evaluation of Policies to Reduce Campus Alcohol Problems	—	57,482	●		
National Institute on Drug Abuse					
Drug Classification/Abuse Liability	530,009	476,234		●	
Abuse Liability Studies	680,185	711,881		●	
National Prevention Evaluation Network	—	300,510	●		
National Technical Assistance & Resource Sharing	1,514,661	1,930,700	●		
Multicultural Resource Center	382,314	498,361	●		
State Prevention Grants	5,240,490	8,088,994	●		
Drug Prevention Family Counseling Clinic	145,956	31,659	●		
Effectiveness of a Model Intervention Program	61,309	214,938	●		
Project Info Alternatives Curriculum	85,413	24,800	●		
The Door Prevention Research Project	79,754	110,439	●		
The NAPA Experiment	429,545	420,704	●		

12. Misuse of Alcohol and Drugs (Continued)

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
	Research on Drug Abuse Prevention Techniques	$ 251,800	$ 300,201	●		
	Cost Effectiveness Evaluation: Drug Abuse Prevention	208,005	202,889	●		
	Evaluation of a Model, K-12, Drug Education Project	—	194,737	●		
	Family Effectiveness Training	—	271,934	●		
	Immigrant Social Service—Family Circle	209,900	—	●		
	State Drug Usage Evaluation	121,388	—	●		
	Ticada Theater Drug Prevention Program	73,552	—	●		
	Impact of Georgia Drug Abuse Prevention Program	124,780	—	●		
	Drug Abuse Prevention Training	200,000	360,000	●		
	Employee Counseling Services Special Initiative	—	210,163	●		
	Clearinghouse Prevention Activities	1,380,000	1,364,000	●		
Food and Drug Administration	**Bureau of Drugs**					
	Drug Abuse Treatment Monitoring	1,526,000	1,387,000	●		
	Prescription Drug Labeling	1,872,000	1,552,000	●		
	Human Drugs: Bio-Research Monitoring	7,529,000	4,838,000	●		
	Biopharmaceutics	4,530,000	5,505,000	●		
	Drug Quality Assurance	26,082,000	28,668,000	●		
	New Drug Evaluation	16,258,000	18,042,000	●		

12. Misuse of Alcohol and Drugs (Continued)

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
	Drug Efficacy Study Implementation/ Generic Drug Evaluation	$ 4,827,000	$ 4,451,000	●		
	Drug Experience and Trend Analysis	2,489,000	3,048,000	●		
	OTC (over the counter) Drug Evaluation	3,445,000	4,168,000	●		
	Prescription Drug Advertising	830,000	512,000	●		
	Generic Drug Standards	3,592,000	3,778,000	●		
Health Services Administration	**Bureau of Medical Services**					
	Health Education Program (Uniformed Services University of Health Sciences)	945,000	798,154	●		
	Indian Health Service					
	Clinical Services	13,500,000	15,237,000	●		
National Institutes of Health	**Division of Research Resources**					
	General Research in Alcohol/Drug Misuse	142,110	167,479		●	
	National Institute on Aging					
	Programs to Reduce the Inappropriate Use of Drugs in the Elderly	1,000,000	1,100,000		●	
Office of the Assistant Secretary for Health	**Office of Health Research, Statistics, and Technology/ National Center for Health Services Research**					
	Adequacy and Validity of Data About Acute Poisonings	50,719	—		●	

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
Office of Human Development Services	**Office of Program Coordination and Review**					
	Alcohol Abuse Prevention Services (Title XX)	$ 45,634,819g	$ 17,925,200g	●		

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13. Improved Nutrition

1980 Total $484,474,983
1981 Total $516,345,692

Public Health Service

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
Centers for Disease Control	**Center for Health Promotion and Education**					
	Nutrition Surveillance and Applied Research	$ 2,385,000	$ 2,400,000	●	●	
Food and Drug Administration	**Bureau of Foods**					
	Nutrition	5,225,000	7,220,000	●		
	Food Sanitation Control	41,286,000	38,208,000	●		
	Interstate Travel	3,177,000	2,232,000	●		
	Food Labeling and Economics	1,949,000	2,154,000	●		
Health Resources Administration	**Bureau of Health Professions**					
	Development Grants—Interdisciplinary Training in Nutrition for Health Professions Students	1,512,322	—			●
	Allied Health Educational Projects in Dietetics	544,054	125,618			●
	National Workshop on Nutrition Education in Health Professions	—	59,820			●
	Public Health Education Projects/ Traineeships in Nutrition	897,216	736,161			●
Health Services Administration	**Bureau of Community Health Services**					
	Enhance General Physical and Emotional Well-Being—Reduce the Incidence of Disorders Related to Malnutrition	7,000,000	7,500,000	●		

13. Improved Nutrition (Continued)

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
	Indian Health Service					
	Clinical Services and Preventive Health	$ 4,892,364	$ 2,201,068	●		
	Interoffice Programs					
	Nutrition Education and Counseling in Primary Care Programs (IHS, BMS and BCHS)	b	b	●		
National Institutes of Health	**Division of Research Resources**					
	Improved Nutrition Research	341,990	2,934,080		●	
	National Cancer Institute					
	Information Dissemination—Relationship of Diet and Nutrition in the Etiology of Cancer	56,000	887,000	●		
	Nutrition and Cancer—Studies Focusing on Etiologic Factors Related to Nutrition	3,992,000	3,844,000	●	●	
	Identifying Causes of Cancer Cachexia	—	185,000		●	
	National Eye Institute					
	Diabetic Retinopathy	7,652,904	5,847,000		●	
	Diabetic Cataract	286,364	1,327,000		●	
	Ocular Effects of Nutritional Deficiencies	697,891	1,036,000		●	
	National Heart, Lung, and Blood Institute					
	Nutrition Counseling Program at University of Iowa—Effects of Long-Term Counseling on Nutrition and Heart Health	175,000	200,000		●	

13. Improved Nutrition (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Lipid Research Clinic—Nutrition Education for Participants and Families	$ 1,025,000	$ 1,137,000	●	●	
National High Blood Pressure Education Program—Plans for National Education Program on Nutrition for Hypertension Patients	250,000	200,000		●	
Heart Health Nutrition Education in Cafeterias, Supermarkets and Vending Machines—Pilot Studies	25,000	—	●	●	
Lipid Research Clinics—Screening and Treatment Referral on Hyperlipidemia, Counseling for Siblings and Spouses	1,900,000	1,950,000		●	
Stanford Nutrition Education and Counseling Programs	700,000	700,000	●		
National Research and Demonstration Center, Baylor College of Medicine—Risk Awareness Education for Consumers in Heart Disease and Nutrition	900,000	800,000	●		
National Institute on Aging					
Nutrition Research and Prevention	960,000	1,000,000		●	
Enhance General Physical and Emotional Well-Being/Reduce the Incidence of Disorders Related to Malnutrition	203,852	216,000		●	
Clinical Nutrition Research	387,000	420,000		●	

14. Physical Fitness and Exercise (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Public Service Information Programs—TV, Radio, and Public Advertising Campaigns	$ 170,000	$ 170,000	●		
Physical Fitness Opportunities—Work with Industries and Voluntary Groups to Promote Sports and Fitness Projects, e.g., Presidential Sports Award, Competition and Development Projects, "State Champion" Schools, and Certification of Demonstration Center Schools	17,000	17,000	●		
Leadership Training—4,500 Persons Trained in Regional Clinics	21,000	—	●		
Leadership Training—9,000 Persons Trained in Regional Clinics	—	20,000	●		
Technical Assistance to Governor's Councils on Physical Fitness and Sports	—	—	●		
Program Management Support	500,000	515,000	●		

15. Control of Stress and Violent Behavior

1980 Total $10,691,395
1981 Total $ 9,946,824

Public Health Service

Alcohol, Drug Abuse, and Mental Health Administration

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
National Institute of Mental Health					
Foster Children: A Crisis Intervention	$ 93,262	$ 105,850		●	
Effects of Spousal Illness and Death in Older Families	280,668	328,159		●	
Stress and Families: Changing Sex Roles and Mental Health Services	69,529	68,438		●	
Mental Illness and Divorce	128,716	—		●	
Stress and Personality Interactions in Health and Illness	50,293	—		●	
Adaptation and Stress Among Vietnamese Refugees	57,162	—		●	
The Economy as Stressor of Metropolitan Populations	158,422	138,491		●	
Family Coping Following Job Loss	76,453	3,440		●	
Stress Inoculation and Adherence to Health Decisions	68,333	—		●	
Stressful Life Events Rating Problems in Epidemiology	15,473	—		●	
Adaptive Capabilities of Newly Immigrated Asian Elderly	94,654	99,498		●	

15. Control of Stress and Violent Behavior (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Testing a Congruence Model of Aging and Mental Health	$ 122,852	$ 24,920		●	
Aged Residential Segregation: Mental Health Impact	150,732	—		●	
Stress Vulnerability in Alzheimer Patient's Families	101,256	112,559		●	
Family Dynamics and the Care of Aged With Dementia	—	87,188		●	
Caring for Elders and Mental Health of Family Members	123,357	123,152		●	
Old and Alone: Gender, Marital Status and Mental Health	148,485	28,415		●	
Mental Health of Korean-American Elderly	48,594	48,205		●	
Interdependence and Aging in Ethnic Families	69,493	—		●	
Mental Health and Environmental Adaptation of Rural Elderly	139,951	146,866		●	
Voluntary Relocation and Mental Health of the Aged	58,086	—		●	
Maintenance and Change of Mental Health of Poor, Black, Urban Elderly	175,295	—		●	
Impact of Retirement on Aging and Adaptation	48,967	67,591		●	
Evaluation and Treatment of Child Molesters	291,085	178,713		●	
The Assessment and Treatment of Child Molesters	—	221,082		●	

15. Control of Stress and Violent Behavior (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Beating Wife-Beating: An Exploratory Study	$ 57,175	$ 13,615		●	
Volunteers and the Diversion of Juvenile Offenders	188,064	192,044		●	
Training and Evaluation of Aggressive Children-II	58,950	1,441		●	
Home-Based Treatment for Multiple Offending Delinquents	313,092	148,352		●	
Interactions Affecting Juvenile Behavior in School	15,355	—		●	
A Longitudinal Study of Schooling and Delinquency	126,206	71,041		●	
Forced Relocation on Traditional People	—	127,984		●	
Migration, Social Support and Mental Illness	123,405	90,199		●	
Extended Family Support of Single Black Mothers	173,532	141,467		●	
Identity Through Traditional Lakota Indian Methods	48,762	—		●	
Social Support, Strains, Well-Being of Divorced Women	67,614	108,761		●	
Arriba: A Crisis Research and Intervention Project	—	117,121		●	
Can We Predict the Mental Health of Young Black Males?	83,699	88,260		●	
Impact of Marital Disruption on Navajo Children	81,860	—		●	

15. Control of Stress and Violent Behavior (Continued)

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
	Sexual Assault Among Adolescents: A National Survey	$ 74,734	$ 93,854		●	
	R&D Center for Rape Prevention and Treatment	202,392	141,066		●	
	Sex and Sexual Violence in Fiction: Content and Control	48,724	—		●	
	Parents' Attitudes and Responses to Sexual Abuse	142,100	110,870		●	
	Entrance into Juvenile Prostitution	71,513	75,107		●	
	Non-Stranger Rape: The Role of Sexual Socialization	20,809	—		●	
	Antecedents and Consequences of Employee Stress	—	126,324		●	
	Local Economy, Stress and Mental Health	85,135	—		●	
Health Resources Administration	**Bureau of Health Professions**					
	Management of Childhood Leukemia as a Family Crisis	23,147	29,294		●	
	Stress Response: Assessment and Change	141,768	133,997		●	
	Cluster Studies on Stress and Adjustment	166,280	137,963		●	
	Parental Stressors in Pediatric Intensive Care Units	—	61,502		●	
	Demonstration Primary Care Clinic: Stress Management	86,042	90,505			●

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
National Institutes of Health	**Division of Research Resources**					
	General Research in Stress Control	$ 78,585	$ 162,924		●	
	National Heart, Lung, and Blood Institute					
	National Research and Demonstration (in cardiovascular disease)	700,000	605,000	●		
	Type A-B Behavior in Patients	125,000	120,000		●	
	Plan and Implement National High Blood Pressure Education Program	—	59,504	●		
	Hypertension Specialized Center of Research	—	27,708		●	
	Primary Prevention of Hypertension—A Clinical Trial	—	415,609		●	
	Primary Prevention of Hypertension	—	214,089		●	
	National Institute on Aging					
	Social Research Studies on the Effects of Institutionalization and Relocation	451,000	485,000		●	
	Enhanced General Physical and Emotional Well-Being to Improve Psychological, Social, and Medical Status of the Elderly	3,670,000	3,870,000		●	

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
Office of the Assistant Secretary for Health	**Office of Health Research, Statistics, and Technology/National Center for Health Services Research**					
	Support Systems, Stress, and Primary Health Care	$ 170,627	$ 102,989		●	
	Stress and the Amish Community in Transition	24,069	—		●	
Office of Human Development Services	**Office of Program Coordination and Review**					
	Mental Health Program (Title XX)	d	d	●		
	Administration on Aging					
	Effective Community Intervention for the Elderly (Title IV-B)	159,608	667		●	
	Area Agencies on Aging and the Provision of Mental Health Services for the Elderly (Title IV-B)	143,268	—		●	
	A Model Project for Enhancing Meaning of Life for Hispanic Elders (Title IV-C)	197,762	—	●	●	

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Public Health Service

Alcohol, Drug Abuse, and Mental Health Administration

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
National Institute of Mental Health					
Adolescents and Adults at Genetic Risk for Psychosis	$ —	$ 265,986		●	
Studies of Schizophrenia-prone Young Adults	155,977	—		●	
Factors Regulating Family Environment Interaction	153,216	163,770		●	
Dual Work Families: New Sex Roles or Old	45,057	23,767		●	
Marital Separation and Medical Utilization	14,819	24,749		●	
Therapeutic Infant Development Program	180,777	183,622		●	
Development and Implementation of a Clinical Infant Research Program	280,300	349,085		●	
Identifying Preschool Children at Risk	144,525	—		●	
Prospective Study of Children of Schizophrenic Parents	355,868	212,354		●	
Achievement Place: Phase III—Youth Mental Health	295,879	430,565		●	
Adolescent Development: Sleeping and Waking Behavior	29,639	51,338		●	
Behavior Study of Children of Schizophrenic Parents	60,326	64,062		●	
Children and Families Vulnerable to Mental Disorders	409,881	267,284		●	

16. Cross-Cutting and Other (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Child Psychiatry Training: Detection of High Risk	$ 62,584	$ —		●	
Training Program in Management of Stress Response	134,673	—		●	
Epidemiological Analysis of Type A/B Behavior	168,255	—		●	
Profile: Black Males at Risk to Low Life Expectancy	110,400	—		●	
Coping Behavior in Schizophrenia	152,710	187,180		●	
Schizophrenic Offspring from Birth to Adulthood	57,136	—		●	
Community Mental Health Centers—50 Percent of Consultation and Education	4,688,000	4,323,000	●		
Parent Training: A Preventive Mental Health Program	113,115	—		●	
Training in Preventive Mental Health Services	86,414	—		●	
Jobs, Job Search, Social Support and Depression	59,453	—		●	
Effects of Divorce on Children—Preventive Approaches	64,400	44,072		●	
Primary Prevention in Divorce: A Long-Term Follow-Up	64,359	—		●	
Plenary Conference of the Risk Research Consortium	19,487	—		●	
Parental Mental Illness and Outcome in At-Risk Children	132,055	110,630		●	

16. Cross-Cutting and Other (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Studies of Persons at Risk for Depressive Disorders	$ 41,629	$ 31,080		●	
Program Impact on Children of Mentally Ill Mothers	185,254	151,314		●	
Social Support and Mental Health in a Black Community	73,812	72,663		●	
Coping Styles of Black Adolescent Families	72,960	—		●	
GAIN Program: Group Activities for Individual Needs	168,984	136,646		●	
A National Longitudinal Study of Marital Disruption	184,487	48,704		●	
Evaluation of Families and Divorce Workshop	57,504	29,808		●	
Patterns of Differential Responsiveness to Stress	42,652	54,314		●	
Short- and Long-Term Effects of Broken Homes on Children	170,626	81,175		●	
Sequelae of Marital Disruption on Children	21,199	30,405		●	
Stress, Illness, and Coping in a Rural Connecticut Town	25,555	—		●	
Black Family Mental Health and Teenage Pregnancy	150,000	175,000		●	
Cognition, Speech, and Vulnerability to Schizophrenia	71,747	46,080		●	
Caring for Elders and Mental Health of Family Members	123,257	123,257		●	

16. Cross-Cutting and Other (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Social Support, Strains, Well-Being of Divorced Women	$ 63,172	$ 109,365		●	
Teens and Mental Health: A Prevention Curriculum	120,663	—		●	
Preventing Psychopathology in Children of Divorce	63,474	41,179		●	
Sex Differences in Morbidity and Health Action	81,397	—		●	
Impact of Mental Illness on Patients' Families	15,000	—		●	
A Longitudinal Study of Schooling and Delinquency	130,000	75,000		●	
Adjustment of Children of Schizophrenic Parents	67,081	151,615		●	
Impact of Affectively Ill Parents on Their Children	121,176	92,735		●	
Can We Predict the Mental Health of Young Black Males?	82,473	113,960		●	
Impact on Marital Disruption on Navajo Children	81,811	—		●	
Social Skills Training for Maladjusted Children	—	12,311		●	
Development of the Home Inventory—Elementary Version	—	13,112		●	
Evaluating a Preventive Orientation Program	—	14,711		●	
Blind High Risk Study of Depressives' Offspring	—	128,485		●	

16. Cross-Cutting and Other (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Post Divorce Relationships: The Binuclear Family	$ —	$ 104,665		●	
Group vs. Home Based Early Intervention	—	94,608		●	
Maternal Infancy Predictors of Home/ School Adaptation	—	81,095		●	
Children of Divorce: Cognitive and Social Functioning	—	92,963		●	
Mental Health and Intergenerational Solidarity	—	116,202		●	
Improving Cognitive and Adaptive Abilities of Aged	82,806	—		●	
Mental Illness and Social Support Among the Very Old	184,720	172,500		●	
The Three Mile Island Accident: Psychiatric Sequelae	225,000	250,000		●	
Social and Psychological Factors in Major Depression	212,369	175,000		●	
Children at High and Low Risk for Depression	211,180	248,554		●	
Primary Prevention with Children of Severely Disturbed Mothers	239,659	242,746		●	
The Prevention of Maladjustment in Children of Disturbed Parents	73,179	64,781		●	
Impact of Severely Disturbed Parents on Children	123,214	63,400		●	

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Social Support and Mental Health in a Black Community	$ 95,750	$ 106,931		●	
Pathways to Help Black Informal Support Networks	144,207	151,792		●	
Natural Helping Networks Among Ethnic Groups in Hawaii	—	54,236		●	
How Can Vietnam Vets Cope with Job Loss?	—	156,290		●	
Social Support Networks and Neighborhood Stability	63,030	—		●	
Family Adjustment to Unemployment	23,646	—		●	
Families After Urban Fires: Disaster Intervention	98,024	97,978		●	
Chinatown: Environment, Mental Health and Quality of Life	155,256	—		●	
The Social Consequences of Energy Development	84,229	92,945		●	
Exposure to Lead: Psychological and Behavioral Sequelae	—	150,000		●	
Evaluation Research, Mental Health Services, Chicago Teachers	112,032	131,209		●	
Center for Environmental Health					
Urban Rat Control Grant Program	14,000,000	12,870,000	●		
Rat Control Program: Technical Assistance	517,000	538,000	●	●	

Centers for Disease Control

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16. Cross-Cutting and Other (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Center for Health Promotion and Education					
Health Education/Risk Reduction State-Level Grant Program	$ 6,200,000	$ 6,200,000	●		
Grant Program to Deter Smoking and Alcohol Use Among Children and Youth	10,000,000	10,000,000	●		
Health Promotion Research and Methodology Development	5,700,000	3,700,000	●	●	
Center for Prevention Services					
Health Incentive Grants (314d)	68,000,000	9,000,000	●		
Diabetes Control Demonstration Projects	4,600,000	4,874,000	●	●	
Prevention Analyses and Technical Assistance to States	2,300,000	2,300,000	●		
Center for Professional Development and Training					
Public Health Training, Technical Assistance and Performance Systems	2,360,000	2,360,000	●	●	
Other Program Offices					
Epidemic Investigations, Surveillance and Analysis	5,270,000	5,940,000	●	●	
Clinical Laboratory Training, Analyses, and Testing Activities	5,500,000	5,100,000	●	●	

Food and Drug Administration		1980 Resources	1981 Resources	Services	Research	Health Professions Development
	Bureau of Veterinary Medicine					
	Animal Drug Safety and Efficacy	$ 9,346,000	$ —	●		
	Animal Feed Safety	5,039,000	8,114,000	●		
	Drug and Chemical Residues in Animal-Derived Foods	2,231,000	—	●		
	Veterinary Drugs: Bio-Research Monitoring	2,529,000	—	●		
	New Animal Drug Evaluation	—	4,316,000	●		
	Monitoring Marketed Animal Drugs and Devices	—	3,010,000	●		
	Safety of Animal-Derived Human Foods	—	4,534,000	●		
	Animal Drugs: Bio-Research Monitoring	—	1,026,000	●		
	Bureau of Medical Devices					
	Premarket Approval Activities	4,809,000	6,204,000	●		
	Monitoring and Quality Assurance	19,519,000	16,877,000	●		
	Standards Activities	4,189,000	6,054,000	●		
	Investigational Device Exemptions	6,693,000	1,893,000	●		
	Bureau of Biologics					
	Biologics Safety, Efficacy, and Labeling Review	953,000	493,000	●		
	Biologics: Bio-Research Monitoring	5,415,000	2,158,000	●		
	Program Management	42,381,000	42,368,000	●		
	Buildings and Facilities	3,977,000	3,489,000	●		

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Health Resources Administration

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Bureau of Health Professions					
Develop Curricular Modules in Occupational, Industrial, and Environmental Medicine for Integration into Primary Care Training Programs	$ —	$ 91,250	●		
Research/Data Contracts on Institutional Information About Schools of Public Health, Where Training Includes Prevention (e.g., data on students, faculty, graduates)	98,122	—		●	
Verification and Refinement of Role Delineation for Entry-Level Health Educators, Including Aspects of Prevention	239,292	—			●
Public Health Traineeships with Focus on Prevention	5,179,220	5,051,236			●
Public Health Special Projects with Focus on Prevention	3,458,167	2,048,871			●
Develop, Implement, Evaluate and Disseminate a Self-Learning Program in Alcohol and Alcohol Abuse	126,487	—			●
Evaluation of P.L. 94-484, Sec. 788(d) Grants for Curriculum Development in Nutrition, Geriatrics, and Environmental Health	65,034	—			●
Development of Master's Level Course in Nursing for Care of Individuals in Correctional Communities	290,754	—			●

16. Cross-Cutting and Other (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Papers on Selected Pharmacist Roles that Impact on Disease Prevention and Health Promotion	$ —	$ 18,990			●
Panel Meetings on the Health Personnel Implications of the National Objectives for Health Promotion and Disease Prevention	—	b			●
Nursing Center for Family Health	—	122,677			●
Analysis of Changes in Content of Physician Office Visits	—	150,000		●	
Survey of Community and Public Health Manpower	—	240,000	●		
Evaluation of Institutional Response to the Introduction of Occupational/ Environmental Educational Modules Into Medical School Curricula	—	10,000			●
Interagency Agreement with ODPHP to Co-sponsor a National Symposium, "Prevention and Medical Practice: The Role of Undergraduate Medical Education"	—	2,000			●
Grants for Curriculum Development in Occupational and Environmental Health	2,073,248	—			●
Determination of the Impact of Preventive Strategies on Physician Manpower Requirements	—	99,746			●

		1980 Resources	1981 Resources	Services	Research	Health Professions Development
	Bureau of Health Planning					
	Variety of Activities Carried Out by State and Local Health Planning Agencies (see discussion under Agency Innovations)	$ d	$ d	●	●	●
	Office of International Affairs					
	Study of Health-Related Beliefs of Urban Egyptian Children with View Toward Developing Effective Health Education Programs (with the Office of International Health, OASH)	a	a		●	
	Office of Planning, Evaluation and Legislation					
	Development of National Guidelines for Health Planning—Component of Health Planning Goals Focuses on Disease Prevention and Health Promotion	d	d	●	●	
Health Services Administration	**Bureau of Community Health Services**					
	Community Health Centers/Dental	2,170,000	2,220,000	●		
	Migrant Health/Dental	660,000	720,000	●		
	Maternal and Child Health/Crippled Children/Dental	3,600,000	3,750,000	●		
	National Health Sevices Corps/Dental	1,470,000	1,700,000	●		
	Hearing and Vision Services	22,795,000	23,470,000	●		

16. Cross-Cutting and Other (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Bureau of Medical Services					
Program to Reduce the Incidence and Promote Early Diagnosis of Chronic Disease	$ b	$ b	●		
Program to Reduce the Prevalence of Mental Health Problems and Substance Abuse	b	b	●		
Primary Mental Health Counseling and Treatment Program	b	b	●		
Dental Services	13,639	11,520	●		
Indian Health Service					
Primary Mental Health Counseling and Treatment Program	6,571,000	7,513,000	●		
Clinical Services/Dental	15,595,000	17,692,000	●		
Interoffice Programs					
Education in Primary Services (BCHS, BMS)	b	b	●		
Health Education and Counseling in All Primary Care Programs (BCHS, BMS, IHS)	b	b	●		
Coping/Stress Management: Primary Mental Health Counseling (BMS, IHS)	b	b	●		
Division of Research Resources					
General Research on Cross-Cutting Issues	771,714	2,435,963		●	

National Institutes of Health

16. Cross-Cutting and Other (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Fogarty International Center					
International Research Fellowships (post-doctoral)	$ 575,000	$ 883,000			●
Maintenance of International Liaison for Prevention Research	—	100,000		●	
National Cancer Institute					
Cancer Centers Program	840,000	1,058,000		●	
Epidemiology to Identify Groups at High Risk of Cancer	11,717,000	15,973,000		●	
Training of Research Personnel	1,182,000	1,310,000		●	
International Cancer Research Data Bank	236,000	314,000	●		
Studies of Radiation Exposure in Cancer	92,000	106,000		●	
Induction of Tumors in Non-Human Primates	85,000	93,000		●	
Development of Chemopreventive Agents	368,000	540,000		●	
Research Relating to Chemical and Physical Carcinogenesis, Tumor Promotion and Chemoprevention	11,592,000	16,752,000		●	
Organ Sites Program	2,892,000	2,506,000		●	
Screening, Early Detection, Diagnosis	2,813,000	4,055,000	●		
Public Health	433,000	505,000	●		
Biobehavioral Research	436,000	452,000		●	
Information/Education Programs	135,000	606,000			●

16. Cross-Cutting and Other (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
National Eye Institute					
Prevention of Blindness from Retinal Branch Vein Occlusion	$ 159,324	$ 579,000		●	
Prevention of Senile Cataract	1,853,292	1,425,000		●	
Prevention of Glaucoma	2,172,993	2,900,000		●	
Visual Acuity Impairment Survey	—	480,000		●	
Prevention of Drug-Induced Damage to the Eye	311,376	397,000		●	
Myopia	—	310,000		●	
National Heart, Lung, and Blood Institute					
Community Education Project 5 Communities—Risk Factor Awareness, Education and Treatment Study at Stanford University	2,100,000	2,238,735	●		
Multiple Risk Factor Intervention Trial; Heart Health Nutrition Education and Counseling Programs	9,401,972	11,100,000		●	
Hemophilia and Sickle Cell Disease Prevention Research	3,909,720	3,600,000		●	
Coronary Primary Prevention Trial (CPPT)—Medication Compliance Program	350,000	350,000		●	
Diabetes and Cardiac Function	675,000	650,000		●	
Risk Factor Identification—Role of Trace Metals in Congenital Blood Disorders	310,000	—		●	

16. Cross-Cutting and Other (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Epidemiology of Cardiovascular Disease	$ —	$ 8,294,000		●	
Community Prevention Program for Cardiovascular Disease	—	7,000,000	●	●	
Other Research for the Prevention of Heart, Lung or Blood Diseases	69,952,298	60,190,693		●	
National Institute on Aging					
Program to Reduce Functional Disability in the Elderly	900,000	950,000		●	
Other Aging Research	2,031,148	2,089,000		●	
National Institute of Allergy and Infectious Diseases					
Prevention of Allergic Diseases	2,696,000	2,917,000		●	
National Institute of Arthritis, Metabolism, and Digestive Diseases					
Primary Prevention Research	12,131,000	13,315,000		●	
National Institute of General Medical Sciences					
Research to Prevent Chromosomal Abnormalities and General Genetic Diseases	1,210,000	983,000		●	
Pharmacological Sciences Research	836,000	1,109,000		●	
Anesthesiology Research	823,000	697,000		●	

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Trauma and Burn Research	$ 3,172,000	$ 2,916,000		●	
National Institute of Neurological and Communicative Disorders and Stroke					
Stroke and Trauma Program	4,510,000	4,971,000		●	
Fundamental Neurosciences Program	1,177,000	1,297,000		●	
Neurological Disorders Program	9,259,000	10,190,000		●	
Communicative Disorders Program	3,530,000	3,890,000		●	
Intramural Research Program	6,115,000	6,732,000		●	
Inter-Institute Programs					
Scientific Conferences to Evaluate Recent Research Results Related to Preventive Medicine (FIC and other BIDs)	260,000	166,000	●		
Senior International Fellowships for Research Related to Preventive Medicine (FIC and NIAID)	—	595,000		●	
Office of Disease Prevention and Health Promotion/Office of Health Information, Health Promotion and Physical Fitness and Sports Medicine					
National Health Information Clearinghouse	373,000	770,000	●		
Technical Assistance to Community Health Promotion Programs	b	b	●		

Office of the Assistant Secretary for Health

16. Cross-Cutting and Other (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
National Health Promotion Media Campaign—Meeting to Define Ways to Use Broadcast Media to Promote Health	$ 143,000	$ 250,000d	●		
Meetings to Coordinate Studies of Health Risk Assessment	d	3,000d	●		
Collaboration with Center for Health Promotion and Education on Evaluation of School Health Activities	d	d		●	
National Conference on Promoting Health in the Schools	74,000	1,200	●		
Demonstration Project Related to Health Promotion Services in HMOs	130,626	d	●		
Survey of Health Habits—Conducted Through the National Center for Health Statistics	—	d		●	
Health Message Testing Service—Participation in NCI and NHLBI Program	68,000	68,000		●	
Preparation and Publishing of an Annual Report Entitled *Prevention*	52,000d	18,200d			●
Publishing of the Document Entitled *Promoting Health/Preventing Disease: Objectives for the Nation*	d	56,000d		●	●
National Conference for Institutions Preparing Health Educators	—	71,000	●		●

16. Cross-Cutting and Other (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Guidelines for Developing Health Promotion Programs in Health Maintenance Organizations	$ —	$ 6,000d	●		●
Meetings on Developing Strategies for Promoting Health for Specific Populations	25,000d	2,700d	●		
Evaluation of Health Promotion Activities in an HMO	121,000	d		●	
Support for a Grant Solicitation from the National Center for Health Services Research on Disease Prevention/Health Promotion Issues	d	50,000		●	
Development of a Program to Establish a National Health Promotion Training Network with Private Sector Organizations	d	175,000d	●		
Development of Films for Use in Elementary and Secondary Schools Related to the Surgeon General's Report, *Healthy People*	—	60,100	●		
Office of Health Research, Statistics, and Technology/National Center for Health Services Research					
Collaborative Study with India of Systems Analysis Approach for the Delivery of Primary Health Care (with the Office of International Health, OASH)	a	a		●	
Evaluation of Breast Cancer Detection Strategies	68,177	—		●	
Self Care: Practices and Attitudes in the United States	75,138	78,889		●	

16. Cross-Cutting and Other (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Assessment of Patient Responses to Shared Medica' Records	$ —	$ 26,511		●	
Analysis of the Ethical, Social and Political Issues Raised by Governmental Efforts to Promote Health Behaviors	—	27,355		●	
Improved Data Collection in Health Evaluations	—	41,787		●	
Influence of Social Support Networks on the Health Status of the Elderly	—	19,710		●	
Physician Effectiveness in Preventive Care	—	139,304		●	
Evaluation of the Impact of Women's Roles on Their Health and Utilization of Services	—	34,74[illegible]		●	
Comparison of Disease Prevention/Health Promotion Practices in Various Primary Care Settings	—	55,459		●	
Evaluation of the Effects of Accessibility and Availability of Services Upon the Utilization and Health Status in a Navajo Population	—	2,754		●	
Evaluation of Preventive Medical Care as a Health Strategy	—	56,651		●	
Development of Improved National Estimates of Morbidity Costs for Specific Illnesses and Analysis of Economic Determinants	—	53,751		●	
Evaluation of Child-Parent-Physician Communication in Family Practice	—	13,062		●	

16. Cross-Cutting and Other (Continued)

Health Care Financing Administration

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Cost Effective Methods for Collecting Health Data	$ —	$ 117,812		●	
Risk Factors for Diabetic Retinopathy in American Black Women	—	27,590		●	
Evaluation of the Effects of Choice and Predictability in Health Care Settings on Health Outcomes	—	136,845		●	
Office of Population Affairs					
Immunization and Family Planning	4,000	4,000	●		
Pregnancy and Family Planning	1,000	1,000	●		
STD and Family Planning	2,000	2,000	●		
Office of Special Programs					
Early and Periodic Screening, Diagnosis, and Treatment Program (EPSDT)	35,000,000	40,000,000	◐		
Office of Research, Demonstrations, and Statistics					
Demonstration Projects to Improve the Status of Medicare and Medicaid Recipients Through Increased Awareness—Prevention Through Health Promotion and Preventive Program Efforts	316,306	1,461,000		●	

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Office of Human Development Services

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Administration on Aging					
Community-Based Comprehensive Care for the Elderly (Title IV-C)	$ 193,802	$ 193,802	●		
Promoting Wellness of the At-Risk Elderly and Their Families in Service Demonstration Project (Title IV-C)	137,763	141,263	●		
Senior Health Services Project (Title IV-C)	190,621	190,621	●		
Providing a Missing Link in the Chain of Natural Support (Title IV-C)	146,628	—	●		
Senior Center Care System (Title IV-C)	165,848	167,048	●		
Identifying and Enhancing the Natural Support Systems of the Noninstitutional Rural Elderly (Title IV-C)	96,796	—	●		
Health Education and Social Service/Primary Care Coordination Demonstration Project for a Rural Area (Title IV-C)	107,000	100,000	●		
Demonstration Projects on Elderly Abuse (Title IV-C)	—	245,824	●	●	
Training, Research, and Discretionary Projects (Title IV-E)	1,898,775	1,699,680		●	●
Administration on Aging/Health Services—Administration Demonstration Projects (Title IV-421)	530,080	286,864	●		

16. Cross-Cutting and Other (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Administration for Children, Youth and Families					
Intensive Support Services to Prevent Separation of Families-at-Risk	$ 1,200,000	$ 500,000		●	
Eight Demonstrations to Plan and Initiate Comprehensive Emergency Services Systems	270,000	—		●	
To Keep Children Healthy and Promote Early Diagnosis of Child Health Problems/Head Start Screening Programs	12,000,000	15,000,000	●		
National Runaway Switchboard Program, Information and Referral	260,000	260,000	●		
Eight Youth Development Demonstration Grants	650,000	—	●		
Development of a Statewide Model to Streamline Title XX Systems for Effective Utilization by Runaway Shelters—Ohio Youth Services Network, Columbus, Ohio (with OPCR)	150,000	—	●		
Demonstrations on Prevention of Child Sexual Abuse (six grants)	352,216	—	●		
Five Treatment/Training Institutes for Child Sexual Abuse	1,070,000	—		●	
Six Projects to Improve Health Based Services to Prevent Child Abuse and Neglect	—	360,000	●		
Seven Projects to Improve Child Protective Services Through Cultured and Ethnic Minority Group Involvement	—	560,000	●		

16. Cross-Cutting and Other (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Seven Projects to Improve Mental Health Services for Diagnosis and Treatment	$ —	$ 885,000	●		
Research on Neglect, and Adolescent Maltreatment to Upgrade Quality of Child Protective Services in Public Agencies	—	600,000		●	
Nineteen Primary Prevention/Parent Education Projects	1,570,000	1,570,000	●		
Office of Policy Development					
Women's Alternative Center: A Residential Treatment Program for Female-Headed Households with Serious Problems, Wawa, Pa.	99,500	53,675	●		
Henry Street (NYC) Residential Treatment Center—For Female-Headed Multi-Problem Families	93,705	—	●		
Family Support Center, Yeadon, Pa.—Services to Children Under 4 Years of Age Determined to be at Risk of Child Abuse and/or Neglect	125,000	115,000	●		
Multi-State Research and Demonstration to Design Model Approaches for the Provision of Protective Services for Adults	—	299,587		●	
Family, Child Resource Center for the Ute Mountain Tribal Council—For Child Care, Foster Placement, Coordinated Human Services on Reservations	104,000	—	●		

16. Cross-Cutting and Other (Continued)

	1980 Resources	1981 Resources	Services	Research	Health Professions Development
Model for Social Service Capability in Indian Tribes in North Carolina	$ 120,000	$ —	●		
Indian Family Structure and Welfare Delivery System in Maine and Massachusetts	110,050	—	●		
Comprehensive Social Service Plan for Standing Rock Sioux Tribes	93,110	—	●		
Sisseton-Wahpeton Sioux Child Protection, Family Support and Placement Demonstration Project	68,916	—	●		
Indian Child Welfare Training and Demonstration Project—Five Tribes, Washington State—Foster and Adoptive Parents, New Statewide Juvenile Code	198,400	—	●		
Demonstration Model for Tribally Controlled and Operated Social Services System in Arizona (18 tribes)	135,000	—	●		
Michigan Demonstration Model for Indian-Controlled Child Welfare Agency	138,816	—	●		
Office of Program Coordination and Review					
Homemaker, Home Management Services (Title XX)	597,310,668d	628,309,736d	●		
Day Care, Information and Referral (Title XX)	d	d	●		
Health Services (Title XX)	92,424,682	111,990,398	●		